

The Builder.

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ILLUSTRATIONS.

An Artistic Poster	Issued at Turin in connexion with the Exhibition.
The New Dining-room, Welbeck Abbey	Messrs. Ernest George & Yeates, Architects.
The Duchess's Boudoir, Welbeck Abbey	Messrs. Ernest George & Yeates, Architects.
Battersea Working-class Houses Competition : No. 3 of the First Premiated Plans	Messrs. Smith & Weald, Architects.

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Parliament and Trades-Unions.



THE recent discussion in the House of Commons on the legal position of trades-unions is probably the commencement by these bodies of a Parliamentary campaign, in

which they may possibly in the end be successful. The present House of Commons is distinctly a Tory body, but nevertheless a motion that legislation is necessary to prevent workmen being placed by judge-made law in a position inferior to that intended by Parliament in 1875 was only defeated by twenty-nine votes. This is very significant, and it has always to be borne in mind that the trades-unions include a large number of electors, and that in many constituencies they can turn an election one way or another. If, therefore, at the beginning of a campaign, they have what may be called such a favourable defeat, it is extremely probable that in the long run they will be successful in their efforts to alter the law.

The ostensible reason for this debate was the recent decisions of the House of Lords, first, defining what kind of combination by these societies is wrongful; and secondly, deciding that trades-unions are capable of being sued in respect of such acts, and their funds made liable for damages. Mr. Beaumont's motion was couched in almost humorous terms: "That legislation is necessary to prevent workmen being placed by judge-made law in a position inferior to that intended by Parliament in 1875." The legislation referred to was legislation which for the first time legalised such combinations as trades-unions; but, as was pointed out in the judgments in "Taff Vale Railway v. Amalgamated Society of Railway Servants," was certainly not intended to bring into creation numerous bodies of men capable of owning great wealth yet free from absolutely all responsibility for the wrongs they may

do other persons by the use of that wealth. From legalising an institution to rendering it incapable of being called to account for any wrong, is a wide step, and one which any legislator would hesitate to take under any circumstances, and more especially with regard to trades unionism, which in the past in the heat of party struggle has shown entire disregard for all those economic considerations which form such an important element in our retaining any pre-eminence as a commercial country.

A good deal was said on both sides about so-called "judge-made law," as if it were something which was illegal. As a matter of fact, large portions of English law are built up from time to time by judicial decisions. It is this which gives it its elasticity, and judge-made law is nothing more than the application of well-understood principles to new states of circumstance. Trades-unions have become so strong and powerful that it is obvious they control the acts of their individual members so that they become principals in the transaction, and, as such, liable for damages which their instructions may have inflicted on third persons. In truth, this view of the Law Courts is a tribute not only to their power, but is an indication that they have taken a place among recognised corporations, and we doubt very much whether Parliament will ever alter the law in principle.

For the protection of a large number of the members of trades-unions legislation would seem to be desirable for the purpose of separating the funds of the unions. The Attorney-General said that when trades-unions deliberately elected to blend the funds it was preposterous for them to say it was a hardship that those funds should be made liable in actions against trades-unions. Upon this point we cannot agree with the Attorney-General, because there are large numbers of workmen who subscribe to and are members of trades-unions as benefit clubs, and not as fighting organisations. These men ought to be protected, and it would, therefore, appear desirable that it should be made obligatory for what we may call benefit clubs and campaign clubs to be kept separate. If this

were done, subscriptions for sick purposes would not be liable for damages if obtained against a trades-union, and it would be equally illegal for officials to use them for the purpose of carrying on a strike against employers. There is no reason why workmen, if they choose to subscribe for the purpose of strikes, should not be allowed to do so; but the recent judgment of the Courts, and this late discussion in Parliament, seem to show that the time has now arrived when the question of compulsory division of trades-union funds should be seriously considered by Parliament.

The other point which has now come very much to the front is that of what was called in the debate "peaceful picketing." Here, again, it would appear that the law is in no way altered by recent decisions, but it has only been applied to a new state of facts. Peaceful picketing in itself is clearly not illegal, but it is easy to see that what is nominally peaceful persuasion may be as dangerous to individual liberty as actual violence. In 1891 it was held that "intimidation" meant intimidation in the shape of threatening physical violence or something of that kind; but the judges have now gone further, and consider that peaceable persuasion, coupled with watching and besetting a person's house, is illegal. It is perfectly obvious from the experience of mankind that if you collect a large number of persons about a man's house who are hostile to him, they may, though outwardly peaceable and doing no act of violence, yet by their very appearance threaten his well-being; and the mere assembling of a number of persons about a house or a manufactory is in itself really a contradiction to the term "persuasion";—in other words, it is a fiction that when two or three hundred workmen assemble about a place of business and abstain from violence they are merely engaged in a kind of academic discussion with so-called "black-legs"; one knows perfectly well that the object of the demonstration, even if not a word is uttered, is to intimidate. Such action is quite different from purely peaceable persuasion, and neither that nor combination is really interfered with by the recent judgments. What the law has really done

is to apply common sense to acts which even Lord Macaulay's traditional schoolboy would have recognised as a species of intimidation, and not as mere persuasion. For the present Session the subject is at an end, but we cannot doubt that in future Parliaments we shall frequently hear of it.

PAINTING AND SCULPTURE AT THE PARIS SALONS.

BY H. HEATHCOTE STATHAM.



ALTHOUGH the vast spaces of the Old Salon contain many indifferent and some vulgar paintings—vulgar in the artistic sense, that is to say—there is a sufficient leaven of fine pictures to justify one in classing this as one of the best exhibitions for some years past. The liberality and enlightenment of the French Government and the Paris Municipality in regard to the fostering of decorative art on a great scale is exemplified in the presence of several great canvasses intended for the decoration of public buildings. The central work in the large gallery of the Palais des Beaux-Arts is the immense coloured cartoon by M. J. Paul Laurens for execution at the Gobelins Tapestry Works, representing "Glorification de Colbert," of which a monochrome reproduction was given in our issue of April 19. The colour is a little heated and violent in parts, but this may impress one less when it is carried out in tapestry, a decorative material which rather demands strong colour, and in which the rough texture forms a kind of softening and harmonising element. The opinion which we expressed when publishing the design, that there was a certain degree of absurdity in the contrast between the realistic figure of Colbert in the costume of his day, and the draped and nude symbolical figures by which he is surrounded, seems rather to be shared in Paris. In the saloon at the opposite side of the range of galleries are two still larger pictures by M. Detaille, commissions from the Municipality of Paris for the decoration of the Hôtel de Ville. One of these represents the enrolment of volunteers on the space in front of the Pont-Neuf in 1792; the other the reception, by the Municipality of Paris, of the troops on their return from the campaign of 1806-7 in Poland. Neither of these works is decorative in style, except in the sense that they are painted in a rather harder and flatter manner than this artist employs for his highly-dramatic easel pictures; their interest is perhaps admittedly historic as much as artistic. Both are crowded with figures, all painted with the greatest care; but the scene of the reception of the troops is by far the most effective in a pictorial sense; the artist has had the advantage of being able to oppose two strongly-contrasted groups, both in brilliant and picturesque costumes; the members of the municipality in their civic gowns on the left, the body of troops on the right; while on the extreme right, on a temporary orchestra draped in red, is a choir of young women in white singing a hymn of welcome, accompanied by harps. With these combinations an artist of M. Detaille's talent could hardly fail to produce a striking and effective picture.

It is well thus to employ the art of painting to record on the walls of public buildings striking events in national history; yet one

cannot but feel that it is not in such works that painting seeks or can gain her highest intellectual triumphs: they are essentially pictures painted in the first place for the story, to which artistic treatment is only an auxiliary. In the realm of pure art the great triumph of the Old Salon this year is to be found in M. Gervais' beautiful work, "Les Grâces Florentines." M. Gervais is the finest painter of the nude whom the French possess at present—which is to say that he is the finest in the world; but he treats the nude figure in a grand and monumental style, and yet with a fulness of life and warmth and colour; he is as far from the cold classicities of M. Bouguereau as from the realistic indecorums of M. Lerolle (one of whose pictures in the New Salon would hardly be tolerated in an English exhibition) or the rampant *bravura* of M. Lalire, whose "hashes of nudes" are an annually recurring curiosity of the Salon. The idea of "Les Grâces Florentines" evidently is to suggest what the Three Graces would have been had they been a Renaissance instead of an antique conception. Backed by a semi-circular architectural alcove are three beautiful young women, appropriately represented with more warmth of colour and vivacity of manner than we connect with the idea of Greek Graces; one is seated in the centre, backed by an ermine mantle; the two others, standing at each side, shower upon her a libation of the flowers from which Florence takes her name; the Boboli gardens, or something similar to them, form a vista in the rear, seen through the columns of the alcove. As a creation of pure beauty, it is one of the finest pictures of the year, and almost makes one forget Mr. Sargent at the Academy.

It is rather a boast of the French that they judge pictures for their artistic value independent of the subject; and certainly at the Salon one hears less of that question, "What is it about?" which seems to form the ultimate end of a picture with most of the Royal Academy sightseers. But the French crowd is not always so superior after all. It has occurred to M. Gérôme, for instance, that after the slaughter of Christians by wild beasts in the arena of the Colosseum, there came the moment when the animals had to be driven back to their dens; and accordingly he has painted "La rentrée des félins dans le cirque;" the last spectators are seen leaving their places, and the attendants driving back the lions and tigers with heavy whips, while the bleeding bodies of some of the victims lie in the foreground. Round this horrible picture there is a continual crowd. A Frenchman endeavoured to persuade me that there was always a crowd round M. Gérôme's pictures; but I have seen all his Salon pictures for many years, and never a crowd before them till now. It is therefore the sensational nature of the subject which collects the crowd; so that our neighbours are not so much more enlightened than ourselves after all. A remarkable picture of course it is, but a horrible one; and this seems to be the attraction. M. Bouguereau seems to have felt under the necessity of rousing up his public a little, and so makes a bid for attention and admiration by a singular picture, "Les Oréades," a solid stream of nymphs flying upwards, looking as if they were poured out of some receptacle for wood-nymphs; a masterpiece of drawing of the

multitudinous small figures, the colour cold and the texture hard as usual; doubtless an exceedingly clever thing, yet with no interest beyond the cleverness of execution. Two pictures intended for the New Sorbonne may pass on that account as decorative art, though in fact they are realistic rather than decorative; M. Brouillet's large painting of "Renan on the Acropolis at Athens," which is really a view of the Parthenon, and a very good one; and M. Toudouze's "Un cours de Théologie," a theological lecture in the fourteenth century, in the courtyard surrounded by the old buildings, with students squatted on the flags around a red-gowned Professor; a very clever picture, full of vigour and character. M. Dufau's "Automne," which has been purchased by the State, is a really decorative picture (though not so described), and a rather remarkable one for colour and composition; landscape and figures of a remote golden age; even the legendary centaur is seen in the background; the two main figures in the foreground are very finely designed and grouped, and the whole is suffused with a golden glow symbolical of autumn.

Among the painters who love to put an intellectual meaning into their pictures, M. Ridet, the painter of the romance of modern life, is less happy than usual in his "Prélude d'Amour," the first exchange of sentiment between a couple in a boat on the lagoon at Venice; he has done much better things than this, as regards the interest of the figures, and the water is badly painted, indeed, one is indebted to the catalogue for the knowledge that it is water. M. Henri Martin, *pointilliste* and painter in general of decorative and symbolical compositions on a large scale, is also somewhat disappointing in his "La Muse du Peintre," a single draped figure looking thoughtfully at an easel, or rather a picture on it; this is not a commonplace work either in colour, style, or conception, but the appearance of the easel suggests too much the realistic surroundings of a studio, which are out of keeping with the general idea of the picture. M. Maignan exhibits a large and rather powerful picture of the temptation of Eve, with a very remarkable conception of the serpent. Coming back to realistic subjects, M. Hoffbauer exhibits a pathetic representation of a "Révolte de Flamands"; he does not suggest what revolt or at what date, but the picture of this small band of ill-clad peasants marching along the snow-covered road amid the dreary winter landscape, armed with scythe-blades fixed to the ends of poles, and blowing their fingers with the cold, is a bit of historical realism probably only too true, and it is one of the missions of painting (in spite of the *l'art pour l'art* school of critics) to assist our conception of the life and events of past times, even if the result be not altogether "decorative." Mme. Demont-Breton's two little children on the sea-shore examining jelly-fish ("Les Méduses Bleues") would pass for an admirable picture save by comparison with some previous works by the same hand. M. Roybet dresses up in a scarlet cloak the same "robustious" model whom we have seen in two galleries in London this season, and calls him "Le Vainqueur de Lépante"; but for this sort of picture, clever and even daring as it is in colour and force, one title is as good as another; "L'Homme à Man-

teau Rouge" would do just as well; it is the materialism of painting in full cry. M. Mercié, the great sculptor, like his late colleague Falguière, wishes to show, in "La Paresse," that he can paint the figure as well as model it; the painting is very pretty; perhaps hardly more than that. Among purely and professedly decorative painters M. Marioton, who has taken the ceiling as his special province, exhibits one of his light and floating compositions of this class, under the title "Sommeil"; he has the merit of having realised the right kind of treatment for figure subjects for a ceiling, which should not stand, nor sit, but float, as it were, in space; the only kind of treatment by which one can keep the ceiling light enough, and at the same time avoid the puzzle to the eye of painting figures as standing in a horizontal position, and the confusion as to which is the right side up of the picture. The kind of trellis decoration in the corners of this ceiling gives an individuality to the design, but it is in a taste a little too decidedly Parisian (the ceiling is one for a private house). Another painter of residential decoration, M. Saintpierre, paints for the wall of a vestibule, cut in the centre by a doorway, "Le lièvre et les perdreaux," the hare in an open landscape on one side of the doorway, the partridges in a wooded landscape on the other side; there is a want of point about it, and too much perspective for decorative effect; but it is pretty, and the hare is admirably studied.

There are a good many fine portraits in the Salon, notably M. Chartran's of Mrs. Theodore Roosevelt; M. Henner has for once forsaken his nymphs with undecided contours to paint a portrait of an old lady in a dark dress, the face being the only light in the picture, which is effective enough; and two portraits of ladies by M. Humbert are remarkable for their fine broad style of treatment, which, both in the figures and in the landscape accessories, reminds one rather of Gainsborough. And under the title "Midi" M. Grun has a large still-life painting, with a great brass pot, a porcelain soup-tureen, and divers vegetables, which, in its perfection of touch and execution, is quite the sublime of still-life painting; a realism produced not by hard and minute finish but by a consummate knowledge of lighting, colour, texture, and of the effect of every touch. Whether the result is worth the expenditure of so much talent is perhaps a question; but of its perfection in its way there can be no doubt.

But it is in landscape that the success of this year's Salon—always excepting M. Gervais' work before described—is most remarkable. The French cannot paint the sea; they have no sympathy with it, and seem hardly to have studied it, but paint it out of their inner consciousness; and here the country which has produced Moore and Brett, and Mr. Hook, Mr. Wyllie, and Mr. Somerscales, may afford to be proud. But in landscape, where is the best Academy picture beside the best at the Salon? Even in the way of mere realistic power there are things to wonder at. There is far too much in English landscape painting of mere aim at realism—the kind of success which appeals most to the English public; and realism is not the highest end of landscape-painting. Yet even in the way of mere realism what is there among the popular landscape-painting at the Academy to com-

pete with such a picture as M. Hareux' "Bord de l'Isère—effet le lune"; a State commission, by the way, probably for presentation to the town of Grenoble, at which the scene is laid. Look at the moonlight on the towing-path in the foreground, and the shadows across it; could anything be more perfectly successful in its way? Another equally complete piece of realism, in a different kind of scene, is M. Biva's "La Rivière—Villeneuve-l'Étang"; the foliage and the lights on the grass actually deceptive. To be deceived is not what one should want in landscape; but if people do want it, they will not get it better than this. When, however, we come to such a picture as M. Harpignies' "Souvenir d'Antibes," we are of course on a far higher level of interest. Here we have the double interest of the perfectly truthful suggestion of Nature combined with the translation of it into the painter's own splendid and free style, the result of a perfect sympathy with Nature combined with an exact perception of what pigments can do in expressing the character and feeling of forest and distant sea. The breezy surface of the sea is not simulated, only indicated by a few touches, slight enough apparently in themselves, but of which none has been inserted without thought of its meaning. This is the perfection of landscape art. M. Didier-Pouget belongs to a more realistic school; his large painting "Le Matin—Vallée de la Corrèze," is a class of picture which he has produced before; his favourite materials are in it—the high lawn in the foreground with the heather in flower, the distant valley half shrouded in mist; the style is somewhat more direct, somewhat harder, than that of M. Harpignies; but it is a work of immense force and power. In his other picture, "Crépuscule—Étang de Ruffand" (also at Corrèze) he has given a solemn evening effect, a dark lake in the foreground, dark masses of trees behind it, through which the western light shows faintly. It may be just a trifle scenic; but it is a scenic effect of great beauty and power, in which the artist may be said to have succeeded in producing a picture which raises the same emotion in the mind as the actual scene would raise; and can landscape achieve much more? Among the many other landscapes mention should be made of the scene in the park at Fontainebleau by M. Tenré, with its buildings and its row of trees in the foreground, flecked with the sunlight; of M. Planquette's courageous attempt to paint a landscape flooded with western light; and of M. Cabie's grand and menacing picture "L'Approche de l'Orage," which reminds one of the thunderstorm in Thomson's "Seasons"; a wonderfully true and powerful representation of coming storm, with its mass of cloud, the roughened sea, and the trees, with their leaves blown by the wind, seeming almost to glitter against the background of cloud. The whole picture is in a broad and grand style, no details being allowed to intrude upon or weaken the general presage of storm.

The New Salon, though it includes a certain number of fine works, contains no pictures equal to the finest in the Old Salon, and in sculpture it is nowhere in comparison. M. Rodin, in his fine bust of Victor Hugo, erected on a column, for once condescends to send in a finished work, with no rough

unworked surfaces and no skewers. The remainder of the sculpture in the New Salon consists of odds and ends, many clever, some eccentric. The exception is M. Saint-Marceaux's four panels in very low relief representing "The Four Seasons"; these are intended evidently as architectural decoration, though it is not stated for what position. Among the larger paintings there are a good many large decorative pictures, but none of them of very striking merit except M. Dubufe's "À Gounod," a large composition in which the figure of the composer playing on a piano, and a very graceful seated figure of a lady, turned away from the spectator, listening to him, are oddly combined with angels playing violins and a reclining nude figure, possibly the Muse of music, in the foreground. Nevertheless this is a fine and really decorative picture, and the figure of the seated lady is an inspiration. The "note" of the new Salon, of course, is supposed to be the use of painting to convey impressions rather than to simulate facts; it professes to be more intellectual in its aims than the Old Salon, and to suggest new departures in art. But this character is not very consistently kept up; the walls must be filled and the ordinary spectator attracted; and M. Gervais' large painting of the celebrated dinner to the Maires of France (probably an official commission), seems out of place here, and quarrels sadly with the supposed aims of the exhibition. Nor can one see that M. Carolus-Duran does much to advance the artistic ideal in his large portrait group of himself and his family through three generations; nor is it, indeed, equal in brilliancy of execution to the type of portraits of *mondaines* by which he has principally made his fame. In fact, the adhesion of M. Carolus-Duran to the New Salon is somewhat inexplicable, and is probably due to considerations rather of artistic politics than of art: his artistic affinities are certainly with the Old Salon. M. Courtois exhibits a large painting, not at all however of the domain of "L'Art Nouveau," of Adam and Eve in Paradise, in which the Adam at all events is a very fine figure, but not at all the lighting of full daylight—*plein air*—which is supposed to be part of the creed of the New Salon; this again is a picture that one would have expected to find in the other division of the Palais des Beaux-Arts. The *plein-air* treatment of the nude is rather to be seen in M. Lerolle's admirable "Baigneuses," a piece of pure and unaffected art; pity he should have spoiled the impression by the vulgar "Étude" hung alongside of it. The desire to penetrate into the essential characteristics of a scene is well illustrated in M. Cottet's curious and striking work "Messe basse en hiver (Bretagne)," where the black-cloaked figures struggling along the wintry road have a rude pathos which quite distinguishes the picture from the ordinary type of scene of rustic life.

There are no landscapes in the New Salon of anything like the power and scale of the finest of those in the Old Salon; but on the other hand it may be observed that the wider spacing and less crowded hanging in the New Salon allows their due effect to sundry small landscapes of great beauty, which would be crushed, as it were, amid the crowded canvases of the larger exhibition. Among these are M. Damoye's, especially "Les Bruyères Noires;" M. Ménard's fine view

of the desolate walls of Aigues-Mortes standing among the marshes; M. Thaulow's "Automne Doré," and two or three landscapes by M. Lhermitte, which indeed, though not large in scale, are broad and powerful enough to hold their place anywhere. Among the portraits is a fine quarter-length of the military-looking personality of M. Gérôme, dressed in that green be-palmed livery of the Institut over which Daudet is so sarcastic in "L'Immortel."

The great crowd of sculptures in the central court of the old Salon shows an extraordinarily high average of work for such a numerous collection; and while there are fewer examples of eccentricity and love of violent action and sensational subjects than last year, on the other hand there is perhaps no work of so high and intellectual a cast as one or two of the last year or two. The great attraction to the average spectator is M. Puech's polychromatically constructed figure, "La Pensée"; the use of differently coloured marbles for quasi-realistic effect is not the highest form of sculpture, but of the exquisite beauty and finish of this figure there can be no question; the face really seems to think. M. Gérôme has, up in the gallery, a slightly coloured figure of a nude dancer playing with balls, clever to a surprising degree, especially as the work of one who is essentially a painter, but absolutely destitute of sentiment or even of beauty. It would be impossible here to name all the works in sculpture which are worth serious attention. Among those which appeal more especially to the architect are the monument to the painter Louis Français, the joint work of M. Peynot (sculptor) and M. Godefroy (architect), a grand draped female figure backed by a stele; and the low-relief panels "Autumn" and "Winter" by M. Roux, two of the panels to be executed in Sevres stoneware (*grès cérame*) for the decoration of the Chamber of Deputies. M. Récipon's "La Famille, la Loi," the centre portion of the great "L'Offrande à la Patrie" to be erected in the Panthéon, is too tumultuous in lines for a sculptured monument, and rather illustrates that tendency towards unrestrained line and action which is one of the dangers to modern French sculpture. M. Mercie's principal work is a group forming a monument to Gounod (in whom the French still devoutly believe), a group of figures composed in a kind of ascending spiral of main lines, and conveying the idea of their being uplifted and consoled by the composer's art; this is a fine work both in an intellectual and decorative sense, though it is not at M. Mercie's highest mark. M. Gustave Michel's colossal figure, or half-figure, "La Forme se dégageant de la Matière," looks as if the sculptor had been influenced by M. Rodin; it is one of those rather doubtful efforts to express an intellectual idea which is beyond the limits of the art of sculpture; beauty and completeness of line are sacrificed to the expression of a thought; a principle which would soon wreck the art if carried far. There are other attempts among the sculpture at this expression of ideas which would find more fitting expression in literature, such as M. Moreau-Vauthier's "Le Mur: aux victimes des révolutions," where the stones in the wall of a prison break out into wretched countenances of misery supposed to have been immured therein; pathetic, perhaps,

but somewhat of a sculptural monstrosity. M. Icard's "The Foolish Virgins," a group beating frantically at the closed gate of Paradise, is somewhat violent, but one cannot deny its tragic power; it is better at all events than the set of tame figures in elegant attitudes of stage grief, which are sometimes seen as an illustration of this subject.

There are many things among the smaller works of sculpture well worth attention; beautiful modelling, as in M. Champell's "Le Printemps de la Vie"; figures which have an element of poetic suggestion in them—a thought in stone or plaster; but it is impossible to enumerate them here.

NOTES.

In our issue for March 22 we drew attention to the point decided in the case of the City Council v. London County Council that the power of granting licences for the erection of wooden stands to view the Coronation procession had been transferred, by the operation of the London Government Act, 1899, from the County Council to the new Borough Councils; and we pointed out that a doubt remained as to what was now the position of the District Surveyors acting under the jurisdiction of the County Council. Before the above-mentioned transfer it had been the practice for the County Council to issue these licences, with the condition attached that the stands must be erected to the satisfaction of the District Surveyors; but the Westminster City Council have now issued the licences with the condition attached that the stands must be erected to the satisfaction of their City Engineer. Under these circumstances a special case was stated for the opinion of the Court in the case of the Mayor, &c., of Westminster v. Watson (see page 527) raising the following three points:—1. Whether the powers, duties, and liabilities of the District Surveyors in respect to those structures (which fall within Section 84 of the London Building Act, 1894) have now been transferred to the City Councils and their officers. The answer of the Court to this question was that there had been no transfer, but the duties now devolved on the persons specified in the licenses. 2. Are these structures works of which the District Surveyors are entitled to have notice under Section 145 of the London Building Act, 1894? The Court answered this question in the affirmative. 3. Had the right to recover fees been transferred, or had it lapsed, or did it remain in the District Surveyors? On this last point the Court held that there had been no transfer; that where there was a *bond-fide* duty on the District Surveyors to inspect the structures to ascertain whether any provision of the Act had been infringed, they would be entitled to the fees; but seeing that the duties were diminished, the County Council should fix a lower fee than that fixed when the whole duties rested on those Surveyors.

Mechanical Plant in Office Buildings.

CONCURRENTLY with increase in the size of office buildings, the necessity arises for greater attention to the question of mechanical equipment. In this country tenants are left to provide themselves with various conveniences and comforts which in the United

States are furnished by the proprietary, and it seems to us well that architects should endeavour to impress more fully upon clients the desirability of adopting the most perfect installations of engineering plant for all buildings erected. The Broad Exchange Building, New York, is the latest example of what may be done in this direction. It is of twenty stories, and includes more than 11 acres of floorspace. The steam and electric light plant are in the basement, the former comprising five water-tube boilers, each having 2,960 square feet of heating surface, and the latter five generating sets with an aggregate output of 550 kilowatts. The eighteen hydraulic lifts are served by three triple-expansion pumping engines, one compound pump for holiday use, and a similar pump for hoisting sales. A fire pump is included in the equipment and is cross-connected with the water service pump so that it may be used occasionally to keep the working parts in proper condition. Drips from the engine cylinders and the blow-off pipes from the boilers are connected to a blow-off tank, which, in accordance with the city regulations, is fitted with a cooling coil, so that water may be reduced to a proper temperature before discharge into the sewers. Water is supplied from the city mains, being passed through mechanical filters before entering the storage tanks, the total capacity of the filters being 800 gallons per minute. All the offices are warmed by radiators in which exhaust steam provides an economical and effective medium for the provision of heat, the circulation is accelerated by the adoption of the Paul system, and all condense water is returned to the boiler-feed pumps, which are under automatic control. Feed-water filters, grease-separators, and similar appliances are used wherever desirable, and there is a feed water-heater of 1,500 h.p. capacity. With a plant of the kind which we have briefly outlined, it will be readily understood that all the services necessary for the comfort of tenants can be provided at a minimum cost and with complete efficiency.

Electric Mains.

THE numerous fires that have occurred recently in the mains of some of the London electric supply companies have called attention to the fact that the ordinary direct-current systems of distribution are far from perfect. We have called attention more than once to the extremely low insulation resistance of some of the older London networks, and pointed out that the continued expansion of these systems was attended with danger. More attention has lately been given to the question of insulation, but, unfortunately, higher insulation is secured in many cases by surrounding the mains with an inflammable substance which has been known also to give off an explosive gas when heated. During the last winter it has been a common experience for Londoners to see the roadways torn up for a distance sometimes of fifty yards, and to see numerous workmen taking out charred mains and putting in new ones with commendable rapidity. In a very able paper by Mr. J. C. A. Ward on continuous-current distributing mains, which was recently read to the Glasgow Local Section of the Institution of Electrical Engineers, an account is given of the various distributing systems, and the drawbacks of several of them are clearly

stated. He mentions the difficulty of regulating the potential of the mains, and points out that electric osmosis, whereby moisture is driven into the negative main, has to be seriously reckoned with. He is greatly concerned about the protection of the lead sheathings of the cables from the effects of stray currents, and the heavy rushes of current that ensue when a fault develops. Electricians are alive to the necessity of protecting the coverings of their own mains from the effects of electrolysis, and we suppose that the gas and water companies are also equally alive to this necessity. Mr. Ward mentions a case where a current flowed along the metal sheathing of a cable, and instead of going to earth through an earth plate provided for the purpose it went to the cast-iron junction box and arced through a layer of mud at the bottom of the box on to the water main underneath. The danger of the neutral wire being fused is mentioned, as the effect of this is sometimes to burn out a good many lamps in consumers' houses. Still, it seems to us that this is not a very serious danger, and as it is not likely to occur twice, it is easy to propitiate consumers by giving them new lamps.

Electric Railways in Italy.

THE paper read by Professor Carus-Wilson to the Institution of Electrical Engineers last week on "Electrical Traction on Steam Railways" was a timely and valuable one. He has made a careful study of the Italian railway systems, and has investigated the considerations which are leading the companies to electrify their lines. The network of steam tramways and economic lines that has spread over Northern Italy has seriously affected the receipts of the Adriatica Railway Co. To meet this competition the only thing to be done was to run a frequent service of short trains and to considerably reduce the fares. It was found that this could best be done electrically. Already sixty-six miles of track have been electrified between Sondrio and Lecco, where the electric trains are hauled by steam locomotives to Milan. They are worked on the Ganz high-pressure system, the current being generated at 22,000 volts, and carried by overhead conductors to nine transformer sub-stations where the pressure is reduced to 3,000 volts, and the current led by two trolley wires direct to the polyphase motors on the cars. The Mediterranean Railway Co. is equipping electrically the whole of the line from Milan to Gallarate, and thence to Varese and Arona. Like the Adriatica Co. they generate the electrical energy on a polyphase system at 12,000 volts at the power station, but the sub-stations transform it to direct-current, and the motors on the cars are wound for 650 volts. The actual expenses of operating the new electric services are greater than when steam was used and the fares have been reduced in many cases by 40 per cent., but as the traffic has increased fivefold the receipts have been doubled. It was pointed out that the cheapness of coal in this country more than outweighed the advantage that Northern Italy possesses in the way of water power. In the discussion, Mr. Steel, of the Great Northern Railway, said that the conditions and character of the traffic in England and Italy were widely different. It did not necessarily follow that increasing the traffic

facilities led to a considerable increase in the traffic. The difficulties of managing goods traffic and high-speed passenger traffic on the same lines by electricity were shown, and he considered that laying new lines in the neighbourhood of London was quite out of the question, owing to the enormous appreciation in the value of land during the last thirty years. Professor Carus-Wilson said that the Italian companies first satisfied themselves by actual experiments as to what effect lowering fares and increasing facilities would have on the traffic, before they proceeded with the electrification of their lines. In his opinion there was a wide field for the use of electric traction in country districts in England, where everything seemed more favourable to success commercially than in Italy.

Electric Lighting v. The Settled Land Act.

THE law is getting into a state of confusion in regard to certain matters which may be paid for out of capital under the Settled Land Act under the head of improvements, which form additions to or alterations in building reasonably necessary or proper to enable the same to be let. Mr. Justice Joyce held that the provision of an electric lighting installation, exclusive of fittings, was an "addition" within the section, and might properly be paid for out of capital money. When this decision was given we noted its importance. Now we have Mr. Justice Buckley, in the case of *in re Clarke's settlement*, which was decided the end of last sittings, giving an exactly opposite decision. The only difference in the two cases was that in this case the lighting was required for a country house, in the earlier one for a town house. It is eminently desirable, therefore, that the Court of Appeal should decide this matter once and for all, and settle whether electric lighting comes within the meaning of the Settled Land Act, 1890.

The Church Building Society.

THE eighty-fourth annual Report of the Incorporated Church Building Society shows that, in spite of the recent unfavourable conditions for subscriptions owing to the war and the increased taxation, their income for 1901 is much larger than that for 1900, being 8,960*l.* for last year as against 5,402*l.* for the preceding year. This is certainly an indication that the recognition of the useful work of this Society is on the increase. During its existence the Society has been instrumental in aiding in the erection of 2,365 additional new churches, and in assisting in rebuilding, enlarging, or otherwise improving the accommodation in 6,235 other churches or consecrated Chapels of Ease. By these means more than two million additional seats have been secured, by far the greater part of which are for the free use of the parishioners according to law. The actual amount of money entrusted to the society and used in making grants toward the objects named has reached 895,683*l.* The Report acknowledges how much this Society is indebted to the Committee of Honorary Consulting Architects for examining and reporting upon the plans submitted to them at their monthly meetings; from which Committee they had the misfortune to lose during the past year the Chairman, Mr. James Brooks, who for many years had been a valued member of their body. A special resolution of sympathy

has been sent to his relatives, and the vacancy on this Committee thus created has been filled by the election of Mr. Temple Moore; whilst Mr. J. P. Seddon, whose long and valuable services the Society gratefully recognise, has been appointed Chairman of the Committee.

Schools in the United States.

THE most important contribution to the new number of the *Journal of the Sanitary Institute* is a long report by Miss Alice Ravenhill on the teaching of hygiene in the schools and colleges of the United States of America, and on the design, construction, and sanitation of these schools. Miss Ravenhill was sent to America in the summer of 1901 to prepare reports for the Education Department, the Technical Education Committee of the West Riding Yorkshire County Council, and the Sanitary Institute. For the Education Department she inquired more particularly into the question of the teaching of domestic science, and for the West Riding County Council into the teaching of social subjects. The report for the Sanitary Institute contains a comprehensive account of the instruction given in hygiene, and of the application of the science of hygiene to the design and construction of school buildings, furniture, &c. The school-building regulations of the Indiana State Board of Health are quoted, and show in some respects a marked advance on those of our own Education Department; for example, the floor-space for each pupil must not be less than 15 sq. ft., and there must be a "well-lit and ventilated basement under entire buildings." The requirements as to warming and ventilation are carefully specified, and must be sufficient to maintain a uniform temperature of "72 deg. during zero weather," and a change of air at least once in every twenty minutes. Three plans and internal and external views are given of the New York City Schools, designed by Mr. C. B. J. Snyder. They show a complete system of mechanical ventilation, and a free use of sliding partitions. The closets and lavatories in the schools visited by Miss Ravenhill do not appear to be as good or as well-arranged as the corresponding fittings used in this country, but it is a good feature that all plumbing in connexion with them is exposed to view. We have pleasure in drawing attention to this report; it contains much which is of practical value for architects.

Denton Hall, Yorkshire, W. R.

THE Denton Park Estate, near Otley, is about to be offered for sale. The property extends over 4,300 acres, yielding an estimated rental of more than 5,000*l.* per annum, and includes the Hall, Highfield, twenty-eight farms, and 1,100 acres of grouse moorland. The Hall, formerly known as Denton Castle, was built of an excellent stone quarried on the estate in 1778 for Sir James Ibbetson, Bart., after plans and designs by John Carr, of York. The house, commanding an extensive view over Wharfedale and the Wharfe, consists of a middle block, from behind which two quadrantal galleries communicate with the wings, the whole front being 280 ft. in length. The middle block has an octagonal bay at each side, and a principal façade, 105 ft. long, which embodies an Ionic tetrastyle portico with angle pediment and a bold cornice, carried up the two floors, above

which is a balustrade alternately blocked and surmounted by five large draped urns. The dayrooms, which are spacious and 17 ft. high, are on the ground floor, which is gained by a wide flight of steps. On the first floor are sixteen bedrooms, the offices and servants' rooms being in the wings. Denton Castle had been from the beginning of the sixteenth century a seat of the Farefac or Fairfax family, some of whom, including Edward Fairfax, the translator of Tasso, are commemorated by monuments in Otley Church. The property was brought in marriage by Isabel, daughter and heir of Thomas Thwaits, of Denton, to Sir William Fairfax, Knt. The Castle was the home of Thomas, first Baron Fairfax of Cameron, and his son and grandson—the last-named being the third baron and the famous Parliamentary general. Henry Ibbetson of Red Hall, near Leeds, bought Denton in 1690. The Castle was burned during his lifetime, and having been re-instated was rebuilt by his descendant, who there made a valuable collection of "old masters," chiefly of the Dutch and Italian schools. In G. Richardson's "Vitruvius Britannicus," vol. i., 1802, are large-scale drawings of the principal floor, and of the south elevation.

THESE two houses, standing between the Oxford and Cambridge Club and the offices of the Eagle Insurance Company, will shortly be adapted as a town residence for Prince and Princess Christian. They were acquired from the Crown for purposes of the War Office at the beginning of the present South African war, in the autumn of 1899, and have latterly been occupied as "grace-and-favour" residences by the Earl of Normanton and Viscount de Vesci, but have remained untenanted during some months past, being found unsuitable for official requirements. The Office of Works thereupon effected an exchange with the Land Revenues of the Crown in respect of Bushey House, Bushey Park, on behalf of the Royal Society, who greatly needed proper accommodation for their physical laboratories and cognate appliances.

At the Burlington Fine Arts Club there is now on view a loan collection of 101 mezzotint plates by English engravers, mostly of the eighteenth century, the great period of mezzotint. The collection has been made at this time partly in view of the recently revived interest in this form of engraving, which had been almost entirely in abeyance from the early part of the last century. An exhibition entirely of mezzotint work has a rather sombre effect, and a study of it leaves one moreover, with the impression that there is less room for individuality of style and execution in this erasing process (as it may be called) of engraving, than in the methods in which the engraver works with positive lines. In wood engraving, for example, the influence of each man's style and handling is most distinctly recognisable; in the case of a collection of mezzotints, although collectors who have given their special attention to the subject may distinguish the handling of different artists, our impression was that it is exceedingly difficult to seize on any special qualities distinguishing the work of one engraver from another, the original texture of the surfaces having been formed in the mechanical preparation of the ground; the only decided conclusion we could come to was that the plates of Valentine Green are the finest and most artistic in the collection. As usual at the Burlington Club, the catalogue is very carefully got up in regard to information and critical suggestion; Mr. Wedmore contributes a short essay on "English Mezzotint Portraits," and Mr. W. G. Rawlinson an account of the technical process of mezzotint, which should be studied by visitors who wish to understand the conditions and possibilities of this form of engraving; and on a table in the room they will find the process further illustrated by the exhibition of an actual plate engraved for mezzotint. We are much indebted to the club for an exhibition which is interesting not only in an artistic but in a historic sense, including as it does many portraits of men and women of the eighteenth century concerning whom a good deal of biographical information is given in the catalogue.

THE worship of M. Rodin which is one of the latest fashions with a certain school of amateurs and art-critics took a concrete form last week in the shape of a dinner to the French sculptor, whose statue of St. John the Baptist has been added to the collection at the Victoria and Albert Museum. While we quite agree with Mr. George Wyndham, who took the chair on the occasion, that French sculpture ought to be better represented at South Kensington, we could imagine that a far better beginning might have been made than by the purchase of M. Rodin's very crude and unspiritual conception of "The Forerunner." M. Rodin is a sculptor of genius, but of an eccentric and wilful spirit, to which he has given so much the rein of late years, that his special pavilion near the Paris Exhibition in 1900 left the impression of a kind of sculptor's nightmare of distorted and unfinished fragments; and we hope that the threat of the repetition of this collection of curiosities in London will not be carried out. We confess that we prefer finished sculpture to unfinished, and we would far rather have seen a dinner given in honour of M. Mercié or M. Boucher, among French sculptors; the "Gloria Victis" of the one artist, and the "Antique et Moderne" of the other, are finer works, both in material beauty and in intellectual suggestiveness, than anything we know of by M. Rodin.

M. Rodin in London.

ARCHITECTURE AT THE ROYAL ACADEMY.—II.

CONTINUING our notes on the Royal Academy Exhibition, we may now pass in review the examples of domestic architecture which are to be seen:—

No. 1,366.—"Westhope Manor, Shropshire," by Mr. Guy Dawber, we have already mentioned in a previous article. The house is shown in a crisp pen-and-ink perspective drawing by Mr. T. A. Moodie.

No. 1,369.—"House at de Pary's-avenue, Bedford," by Mr. A. W. Prentice, is, as usual in this architect's work, of good artistic character with some originality, which in this instance takes the form of an immense plaster cove, starting from the level of first-floor window-sills and continuing to the eaves. Below the cove is a brick wall, and bay windows on each front run up to the eaves' line. The roof appears to be tiled with plaster gables and barge-boards, and a plan is included on the drawing.

No. 1,370.—"The Duchess' Boudoir at Welbeck Abbey," by Messrs. Ernest George

& Yeates (illustrated in this issue), we have already noted, as we have their design in No. 1,374. "Foxcombe, Oxford."

No. 1,375.—"A House in Oxfordshire," by Mr. Charles M. Pearce, is of traditional manor-house type in stone, with three bay windows carried up to gabled dormers, and is sufficiently true to the type to promise a successful effect. A plan of the house is given and the garden shown on perspective.

No. 1,377.—"Proposed Block of Four Houses, Hampstead," by Mr. Horace Field, is decidedly clever in plan. The houses are really in a terrace, but by recessing the two in the centre and projecting the end houses an open quadrangle is obtained, which is laid out as a formal garden, so that the effect of one large house is obtained. The two recessed houses have their front doors side by side in the centre of the façade, and the end houses have theirs around the corner on the flanks. This disposition gives an opportunity for a departure in planning from the stereotyped limits of terrace houses, as is indicated by the plan on the drawing. There is no indication of the material, as the perspective is drawn in simple outline.

No. 1,380.—"House at Wimbledon," by Mr. William T. Walker, is shown in a scratchy perspective without a plan. The ground floor is of brick, the upper part rough cast, the building is slightly L-shaped, with a circular bay on the projecting wing. The eaves are at the level of the attic window-sill, which gives the opportunity for a rather unfortunate insertion of what appears to be coarsely modelled plaster ornament over the first-floor windows, which are adorned with jalousies. The whole design is reminiscent of the coarseness of some of our late seventeenth and early eighteenth century work.

No. 1,382.—"House at Ardingly, Sussex," by Messrs. W. W. Whetton and S. E. Case, is a picturesque rendering of a Sussex type of house in half timber and brick, with a large blank chimney-stack on the front which, combined with the wide timber arched entrance, achieves a good modern reproduction of the type selected.

No. 1,383.—"House at Wrotham, Kent," by Messrs. Niven & Wigglesworth, is shown in a pen-and-ink perspective by Mr. E. L. Gings, with a Dureresque background. No plan is given, but the design appears to be made up of a three-gabled plaster house, with extensions on each end for offices, thus gaining length and effect.

No. 1,388.—"Boat-House on Derwentwater," by Mr. W. Henry Ward, is a timber shed with a room over, and suggests in treatment a fusion of ideas from Normandy and Switzerland, resulting in an original and suitable design.

No. 1,389.—"House at Harpenden, back elevation," by Mr. Cecil Brooks, is a commonplace farmhouse mansion, with red brick ground floor and tiled hanging above. The chief feature of the elevation shown is a long flat bay, which, if correctly drawn on the perspective, is circular at one end and square at the other, and is freakishly placed between the central lines of the two main gables, so that the meeting of their valleys comes over the centre of the bay.

No. 1,390.—"A Cheshire House," by Mr. Alfred E. Corbett, we have already noticed, as also No. 1,392, "The Royal Villa, Le-coq-sur-mer, Ostend," by Mr. Arnold Mitchell.

No. 1,394.—"Nos. 32 and 33, High-street, Marylebone," by Mr. William M. Brutton, is a coloured frontal perspective of a building consisting apparently of two shops with a common entrance for residential flats above, but as no plan is given we can but surmise. The elevation is to be carried out in red brick and stone, with green slate hanging to oriel window over the central entrance, and green jalousies to the other windows.

No. 1,396.—"Lodge Hill, Farnham, north front," by Messrs. Farquharson & Evill, is a long and low house of big cottage character, the first-floor window-sills being on the eaves' level, built of brick and plaster, with a stone projecting bay in the middle. This design is shown in a beautiful delicate drawing, almost conveying the idea of a dry point etching, by Mr. Evill, and the proper place is considered by the hanging authorities of the Academy to be on the skirting.

No. 1,398.—"Gardens of High Moss, near Keswick," by Mr. W. Henry Ward, is the per-

spective of a design for a formal garden, with a three-storied bungalow house in the distance. Half the garden is treated with paved walks, a central fountain, and parterre beds, with two gazebos at the angles, evidently the garden for showery weather, whilst the other half is made up of grass and yews, box hedges and alleys for a shady retreat in the heat of summer.

No. 1,399.—"Wood Rising, Rye, Sussex," by Mr. Philip Tree, is a pretty drawing of a pretty bit of a house, consisting mainly of a bay slightly corbelled over the entrance, and treated as a half-timber variation in a tile-hung upper story.

No. 1,401.—"Ascot Priory, New Wing, Ascot," by Mr. Leonard Stokes, we have already mentioned with appreciation.

No. 1,405.—"Stables, Goffs Hill, Sussex," by Mr. William A. Aickman, lacks originality and does not enthuse, being a respectable design of a quality which is no longer in the front rank, though in the youth of the Hanging Committee it might have been estimable. The plan is good and the glass roof over the yard is practical, and as an example of utilitarian architecture we are pleased to see that a place on the line is found for a design that, *quid* beauty, does not rise above the commonplace.

No. 1,406.—"Three Porches to Country Houses," by Mr. Edward B. Wetenhall, might be supposed, in conjunction with the last, to be the victim of a subtle humour. Virile, youthful, "new-art" treatments of the everyday problem of a recessed doorway rather than a projecting porch, aiming to give interest to the middle-class house that is hardly more than a superior villa, this little drawing of elevations and plans, coloured and on tinted paper, is a complete antithesis to the last-mentioned drawing, below which it is hung on the skirting.

No. 1,407.—"Design for a Doctor's House, Westcliff-on-Sea," by Mr. Walter J. Tapper, is a square eighteenth-century flat-windowed house, with segmental over door; that is, the counterpart of the house in an old country town that one instinctively feels at first sight must be the residence of an eminently respectable doctor or lawyer. Westcliff-on-Sea is too young to have any real eighteenth-century house of this type, and the designer has shown shrewd business ability in providing his doctor client with this valuable credential.

No. 1,412.—"Ridgemount, Enfield, Middlesex," by Mr. Alfred H. Hart, we have previously instanced for its eccentric colouring. In design it bears the stamp of the young designer who knows too much, but has not yet learnt the value of restraint.

No. 1,414.—"New House, Leamington," by Mr. Herbert O. Cresswell, is a big hard drawing of a commonplace design, and therefore hung on the line, whilst below it on the skirting is

No. 1,415.—An etching by Mr. Fred. Slocombe of "South Drawing-room Mantelpiece in a House near Piccadilly," by Mr. C. J. Harold Cooper, showing a marble mantel with sculptured mermaids and a wood mantelpiece above; a delicate representation of a delicate design.

No. 1,416.—"House at Wolvesnewton, Monmouthshire," by Mr. A. J. Hardwick, as shown in a crisp, though slightly forced, pen and ink perspective by Mr. Sydney Castle, is a cleverly-designed stone house, with a half-timbered projecting bay that, in its introduction of modern details on an old type, unmistakably marks the twentieth century.

No. 1,417.—"New Residence, Yorkshire," by Mr. Temple Moore, is a quiet, unaffected large house of stone-country type, replete with the wise restraint that marks an intelligent appreciation of the secrets of our national seventeenth century designs.

No. 1,425.—"Billiard Room, Manhattan, Lancashire," by Mr. Huon A. Matear, is a large coloured drawing of an interior, on which ample funds have been expended in painted picture frieze, stained glass, elliptical ceiling with modelled plaster figures, costly woodwork, to evidence the wealth of the owner. It is, in fact, a room for an ostentatious man to show his visitors rather than for quiet after dinner enjoyment of home.

No. 1,429.—"Entrance Front, Castle Dyke," by Mr. J. B. Mitchell Withers, like No. 1,414, which it approximately balances in the hanging, is a hard, big drawing of a design that at first looks commonplace, but on closer inspection amuses. The end bay of the entrance front is a blank wall with a central chimney stack in the centre, and to make the design of this bay symmetrical, the gable round the corner at one

end is echoed by a party wall through the roof. Or does the designer wish to suggest that this was the old and modest house to which additions have been made as the owner's wealth increased, until the mansion culminated in the biggest gable and three stories at the other end? There is an old house in a village well known to artists in which this has been the history that has produced a group not unlike that shown in this drawing.

No. 1,432.—"Design for Dining-Room," for Mr. Arthur N. Wesson. A coloured interior of unpleasant tone, in which is much carved and modelled detail that emulates the elaboration but misses the grace of rococo work.

No. 1,433.—"Proposed Country House," by Mr. George O. Scorer, is an example of the sincere flattery that is being largely bestowed by some of our youngest architects on a well-known leader of the "new art," who has established a definite individual type of house with an originality that entitles it to respect and freedom from plagiarism.

No. 1,435.—"Schoolroom, Conamur, Sandgate," by Mr. Alfred W. Jarvis, is another instance of admiration of another leading light in the "new art" movement, and is a quaint interior, with settles each side of a glazed brick fireplace and copper hood.

No. 1,438.—"Marlborough Chambers, Jermyn-street," by Mr. Reginald Morphew, is a block of shops and flats on a corner site, with a tower at the angle, clever, but somewhat forced in its grappling with a rather difficult problem in modern architectural design.

ARCHITECTURE AT THE ROYAL SCOTTISH ACADEMY.

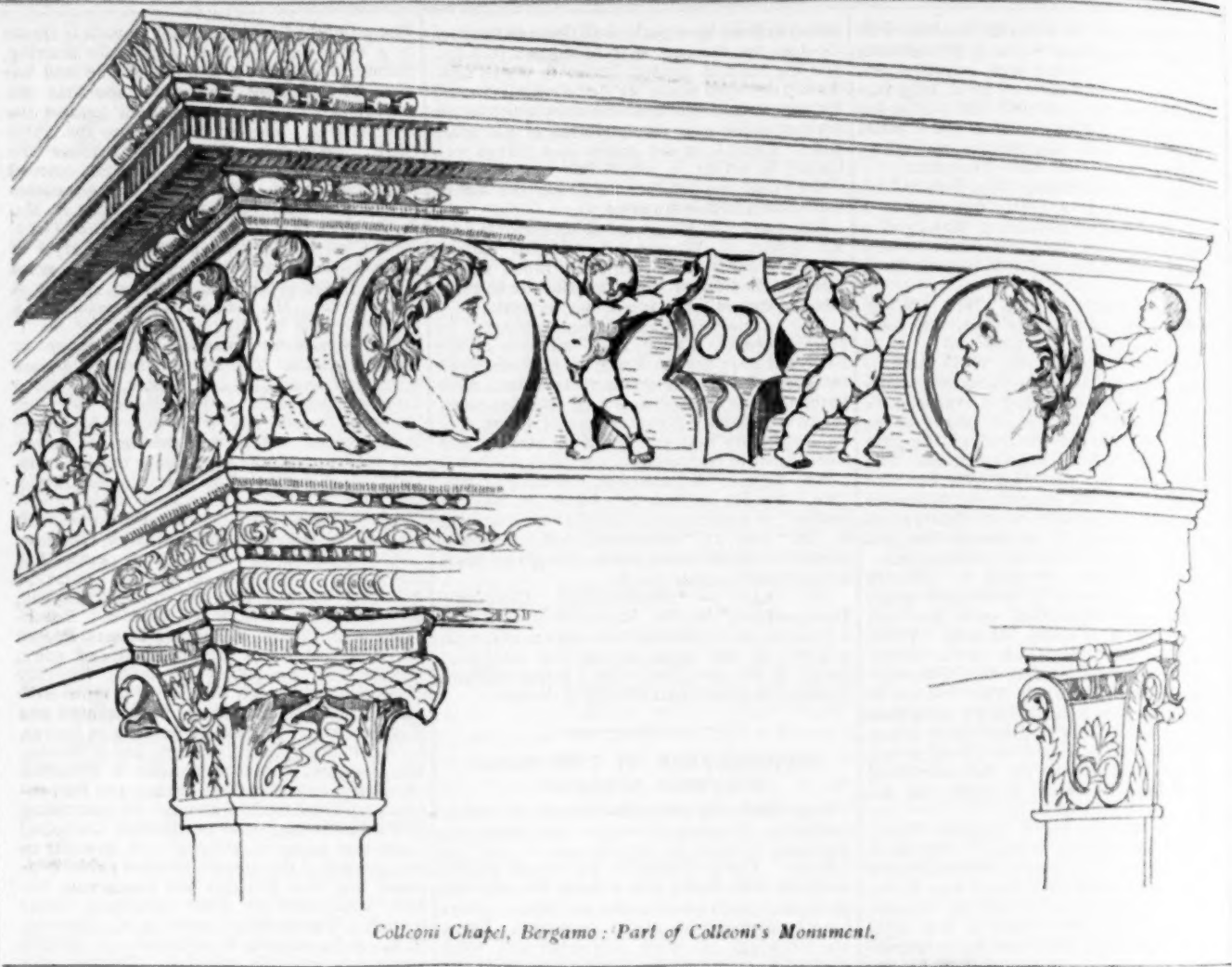
As a whole, the exhibition this year is rather ordinary. There is no work of noticeable importance, whether as regards size, or cost, or interest. The contributions are almost wholly confined to Scotland, and it must be said that the best support given to the exhibition comes from local members of the Academy. There are drawings of work completed and work projected, as well as the usual company of the rejected in competition. The first class is illustrated by drawings solely; no photographs are permitted, as at Glasgow, and consequently some of these drawings do not quite accurately record the actual building, for, prepared beforehand, subsequent modifications in the erecting are unnoticed; it is comparatively rarely that drawings are prepared of buildings once completed, and hence photographs are the most literal illustrations. In the second class a solitary model is offered as the alternative to the cunning perspective: the example is of a bank for the Trongate of Glasgow, by Mr. Thomas P. Marwick. The style is a Georgian rendering of Classic, with rustication to pillars and windows: at the corners are circular towers corbelled out, with curved roofs. The model is to a generous scale, coloured, and set at a proper level, so that a very faithful idea of the ultimate effect is given. But whether after all the result is worth the effort is a point upon which some may differ. Elaborate or unusual compositions with a crescent frontage, or dome, or curves generally seem necessary to justify the model, and then for the designer's guidance perhaps even more than for public enlightenment. But besides model or perspective, the too much neglected geometrical elevation as a method of illustration is very well represented in Messrs. Peddie and Browne's three frames, the railway station at Stirling, and insurance offices in Leeds and Dublin; pen drawings in thick lines that tell very well, and it is only a pity that the shadows were not cast to show the sinkings and projections from the wall face, and so in effect give plan and vertical section at the same time. The studies in Renaissance are varied. The Leeds façade is the richest, with rather elaborate work round the windows of stone or terra-cotta, and the wall of brickwork. Besides Mr. Browne, Mr. Hippolyte J. Blanc is the only other academician who exhibits, and he has three works, in progress and completed—the New Gymnasium and Baths, Dunfermline, a Warehouse in the City, and the new pulpit of his great Baptist Church in Paisley. The purpose of the baths is fairly evidently expressed in the elevations, a high central block with gable and flanking circular turrets is contrasted with low side buildings. An alternative arrangement may be studied in the rejected design of Mr. Ure and Mr. E. M. Watson, where the centre feature is low and flat domed.

The pulpit of Coats Memorial Church is shown in a very well executed large-scale drawing, tinted; it replaces a temporary one and has more of the railed platform shape than the wineglass, and is of stone, built against the chancel pier. The style is that of the whole fabric, geometric Gothic, and above the pulpit is suspended an elaborately-carved sounding-board. Of work by Associates of the Academy the most important is Mr. A. Marshall Mackenzie's tower of new Greyfriars Church, Aberdeen, much in the style of his college tower; Perpendicular, of great tenacity in the lights and mullions; granite is the material. Mr. Kinross is represented by a tea-room over a dairy at Buxley, for Sir T. Miller, apparently intended as a lodge or summer retreat. The interior shows a square apartment treated in late Gothic, with stone fireplace, doorpiece, and mullioned window, the walls wood-lined with linen-fold panels and moulded stiles, the ceiling of timber and plaster, and all very richly treated. Mr. David A. Robertson has a design for Burnisland U.F. Church, a very poor thing indeed. Mr. John Jas. Burnet has also but one exhibit, his rejected design for National Bank, Glasgow.

The ecclesiastical work is of even less importance than the civil and domestic examples shown, and all, rather curiously, are in some variety of Gothic. Beechgrove U.F. Church, Aberdeen, Messrs. Brown & Watt, has a tall, well-proportioned spire, granite not permitting of much intricacy of detail; the church itself is of a quite ordinary type, but treated in a restrained and dignified way. Projected churches at Forres, by Mr. P. Macgregor Chalmers, and at Broomhill, Glasgow, by Messrs. Stewart & Paterson, show respectively earliest Gothic and Perpendicular of latest modern variety. An interesting restoration is suggested of Dunkeld Cathedral choir, now in use as parish church, in so far as the removal of the modern internal gable, box-pews, and two galleries are concerned, but with apparently no other structural interference. The architect is Mr. A. H. Paterson, M.A. Stone vaulting is indeed shown, but this may not be seriously intended. Vaulting may once have existed, or at least been intended, but to attempt it now on the old walls would surely be risky. This apart, the reparation seems entirely judicious; evidently to permit of the south-east door being retained, although a modern insertion, the chancel space is rather pinched. A side pulpit, stalls, and screen are shown, and a feature is made of the Duke of Atholl's pew—he claims ownership of the cathedral fabric—treated as a balcony projecting from the north wall, and entered from the sacristy tower. The large colour drawing is by Mr. Paterson. Dunkeld House, situated but a few yards south of the cathedral, either rebuilt or altered by Mr. J. M. Henry, has little to commend it but its unpretentiousness, and this in its position is a merit; still, it might be that and yet have character, and this it lacks.

Central District School, Perth, by Mr. Geo. P. K. Young, is a three-story building in brick and stone, simply treated on Classic lines, with level cornice, and the most is made of a central lantern ventilator. The Nautical College, Leith, by Mr. Wm. C. Laidlaw, also Classic, is shown in some fullness, with plan and scale drawing as well as view. There are on view four of the designs submitted for the Hawick competition. Messrs. Scott & Campbell's, selected by the committee in contradiction of the assessor's placing, has its entrance at the corner, with a vestibule placed on the diagonal. The elevations are good. Gables have circled tipped pediments. By the same architects are some prettily-treated cottages at West Linton.

Of domestic work the best, perhaps, is a house at Helsingfors, Mr. R. S. Lorimer, a town mansion of some importance, in brick, with stone dressings; local character is given the curved and high-pitched gables. Hillside, Corstorphine, by Mr. F. W. Deas, is an interesting study in distinctively stone treatment, illustrated in a nice pencil sketch. In Fairside, Colinton (Mr. C. H. Maidman), of brick, a square tower is rather out of keeping with the rest of the house: this architect has a cottage at Stow, with half timber employed. An unsuccessful design for the Queen Victoria Memorial, Liverpool, by the Messrs. Rhind, is illustrated in a well executed wash drawing. The composition is triangular on plan. Above curved trusses are a portrait statue of the Queen and groups of statuary; a central shaft, or pier, has a



Colleoni Chapel, Bergamo: Part of Colleoni's Monument.

rounded top, making the general outline pyramidal; the whole is handled in a sculpturesque manner. Granite apparently was the material proposed.

There are one or two drawings of old work without any special merit. Mr. Wellesley Bailey's coloured sketches of the Leonardo Bruni monument, Florence, are interesting. A small but notable section is devoted to metal-work, enamels, and jewellery. Mr. H. Wilson exhibits a chalice and a cross in silver, with small enamels and gems inset. The very opposite to latest modern art of sinuous indeterminate line, they perhaps err in definiteness of detail; architectural features in miniature—such as turrets and gables—are not unknown in old ecclesiastical vessels, but one is hardly prepared nowadays for their revival. An altar cross in beaten brass and enamels—these last by Lady Gibson Carmichael—by Mrs. Traquair, is interesting; she herself has three small enamel plaques, and Miss Story one. Somehow these give the idea of the result being not much less the work of chance than of intention in the way colours run into one another and over the line. Mr. H. Wilson has a case of jewellery, silver principally, wrought and chased, employing the figure in some instances, with enamels and gems. In Mr. Nelson Dawson's case of jewellery the setting is rather more structural and substantial, and the work generally on a larger scale. Mr. Jas. Cromer Watt's case shows more made of the gems themselves; their irregularity in form is rather delighted in. The setting is of the slightest, and a partiality is shown for delicate chain work.

THE SAILORS' PALACE, EAST LONDON.—For the equatorial and other instruments which will form part of the equipment, the British and Foreign Sailors' Society have commissioned Sir Howard Grubb, of Dublin, to make a revolving dome and observatory that are to be erected at the King Edward VII. Nautical School of the Sailors' Palace.

PROPOSED RAILWAYS: LONDON TO THE SOUTH COAST.—It is announced that Mr. Behr, C.E., has been appointed engineer in respect of two projects for a "mono" railway line from London to Dover, and another from London to Brighton, and that he is about to make the surveys and prepare the plans for the two lines, in readiness for the Bills that will be submitted to Parliament.

COLLEONI CHAPEL, BERGAMO.

THE monument to Colleoni at Bergamo is a very remarkable example of sculptor's architecture of the Early Italian Renaissance; the entablature and capital illustrated are from the monument within the chapel executed in white marble, probably the work of Amadeo; the figures, which are the chief attraction of this delightful little work, were drawn by Miss E. M. Green. W. CURTIS GREEN.

PUBLIC OFFICES COMPETITION, MALDEN.

MR. SIDNEY R. J. SMITH, the assessor appointed by the Malden and Coombe Urban District Council, has not yet placed the premiated designs in the competition for public offices, fire brigade station, &c., about to be built at New Malden. Twenty-two sets of designs have been submitted and have been on view to the public during the week. The conditions seem to have been favourable to a successful competition, but the results are very poor indeed. There is only one clever design, that under the motto "Cluny," and this is submitted in a form only intelligible to architects who appreciate imaginative idea above highly-finished commonplace. The drawings are the roughest scrawls we have ever seen on public exhibition, and no assessor could be expected to champion them before a council of laymen who expect their requirements shown in readable form. We cannot, therefore, feel any sympathy for the author of this set who would undoubtedly have been successful had he taken more trouble.

Competitors are allowed the option of providing either a public hall to seat 420 persons, or a council chamber to seat about thirty, so designed as to be capable of extension as a public hall hereafter. This condition has been disregarded by "Economy and Utility," who shows a council chamber incapable of extension, and no suggestion for a public hall of any kind; in other respects, the design is perhaps the most suitable of those sent in, and it is distinguished by being the only one which has arranged the accommodation for horses and engines in the fire station in the proper manner.

The other designs show the stalls for the horses in a separate building in another part of the site. The design entitled "Ad Rem" shows a well-treated exterior, but the required accommodation has been insufficiently studied, resulting in a bad plan. "Bee" has probably the fewest faults of all, and these can be easily altered as far as they are superficial; for instance, the rate collector should have been on the ground floor, the clerk's offices should have been on the first floor next to the committee and council rooms, and there should have been a separate entrance and lobby for the surveyor who pays the men weekly. The elevations are extremely commonplace.

After "Bee," in our opinion, comes the design having a halfpenny stamp to distinguish it. This design shows the same mistake as "Bee" in putting the clerk's offices on the ground floor, away from the committee rooms. The hall and corridors are badly lighted, and would be worse in this respect when the proposed large hall was built later. The elevation to the street is superior to most of those sent in.

ARCHITECTURAL SOCIETIES.

BRISTOL SOCIETY OF ARCHITECTS.—The last ordinary meeting of this Society for the present session was held at the Fine Arts Academy, Queen's-road, Clifton, on the 12th inst., Mr. Joseph Wood, the new President, being in the chair, when Professor Beresford Pite delivered a lecture on "Street Architecture." Prior to the business of the meeting the President alluded with regret to the death of Major C. E. Davis, of Bath, who had done so much for the sister city in the development of its famous baths and the uncovering and preservation of the remains of the Thermae of the Romans, and upon the motion of the President, seconded by Mr. G. H. Oatley, a vote of condolence with Mrs. Davis, the widow, was passed. The subject of the lecture was recently dealt with by Professor Pite in a paper read before the Society of Arts, portions of which were given in our issue for April 12. A vote of thanks to the lecturer was carried, upon the motion of Mr. F. Bligh Bond, seconded by Mr. M. A. Green, of Bath, and supported by Mr. John Fisher, head master of the Kensington School of Art.

COVENT GARDEN OPERA HOUSE.

THE alterations and improvements which have been carried on at Covent Garden Opera House for the last three years, in the intervals between ball and opera seasons, are now completed.

The work on the new stage has comprised the entire reconstruction of the stage, including the raising of the roof, the complete equipment of the stage with new machinery, new flooring, &c. This was one of the most important of the operations, and involved a considerable extent of work. It comprises practically the entire gutting of the back of the house, which includes a very large stage, a back stage, and a paint room, flanked on either side by wing stores. The approximate height of this block is 90 ft., the width about 90 ft., and depth about 100 ft., the whole almost forming a cube of 90 ft. base. The extent to which the stage roof was raised was 20 ft., the actual roof being bodily raised, and then refitted with modern skylights. The roofing materials are of the old, heavy, slated pattern.

The level of the stage floor was somewhat altered and made dead level, instead of being on the rake. The floor was supported by steel construction, divided into a number of movable sections, and the various movable sections are worked by electric power. The upper part of the stage has been fitted with a modern gridiron and an elaborate system of counter-weighted battens. The whole of the top work is constructed on what is known as the "Brandt" system, the lower part of the work on what is known as the "Sachs" system. A very large number of cloths can now be hung on close spacing. Sections of the floor can be raised and lowered at will. All unnecessary inflammable materials have been removed, and everywhere steel construction, wire rope, and metal fittings are used. The floor of the stage, fly galleries and mezzanine and the planking of the gridiron alone are of wood for acoustic reasons. The main floor on the stage is hard wood, *i.e.*, English oak.

The main contractors for this part of the work were Messrs. Colls & Sons, Drew-Bear, Perks, & Co., and the Thames Ironworks Co.

The management of the stage has been put in the hands of Mr. Neilson, who has considerable American experience, with Mr. Robert Affleck as principal mechanist and Mr. Crawshaw as electrician.

The entire re-modelling of the scene stores, the stage offices at the back of the house, the wardrobes, &c., has been completed, and lifts have been provided in the two stage staircases. The lifts which go up the centre well of each staircase are of the usual hydraulic type, by Messrs. Waygood. Further, a system of steam effects for the stage has been installed, worked by the aid of a small steam boiler.

In connexion with the new scene store an electrical hoist has been fitted. This hoist has been placed at the back of the stage, and with its aid long scenery "cloths" are hoisted in bundles from the scenery cellars below up to or above stage level. The hoist itself is in the form of a triple windlass gear worked on to a shaft at the end of which is a motor. The maximum weight of the scenery is 15 cwt., and this can be raised or lowered at the rate of 50 ft. to 100 ft. per minute. The apparatus is placed some 30 ft. above stage level in a niche so that a view can be obtained.

A large asbestos curtain has been provided between the auditorium and stage, and was constructed by Messrs. Merryweather. The total area of the screen covered with asbestos is 3,286 square feet. The total weight of the ironwork is about 7 tons, and the counter-balance weighs about 2½ tons. The curtain can be worked either from the stage or from the stage-door keeper's room.

There is a new full equipment of stage electric lighting. The contractors for this were Messrs. Townsend & Co., and the work was executed under the directions of Mr. Wingfield-Bowles. By the new electric lighting system the old gas appliances have been entirely superseded, and the danger from fire much reduced. One of the features of the system is the use of four distinct colours, namely: white, red, blue, and amber for stage effects. Another feature is that the whole of the switchboard arrangements are placed in a chamber underneath the stage with look-out appliances. Next, the whole of the stage has been wired on two distinct circuits, so that if at any one time one source of supply fails, there is always a second supply by which the lighting arrangements can be carried on.

Among the fittings there are 61 ft. of electric battens, each containing 220 lamps of various colours. Another type of fitting is to be found in the vertical wing lights, each comprising seventy-five lamps. Further, a float has been sunk in front of the stage containing 250 lamps. The whole of the stage offices have been electrically lit.

The electric lighting in the front of the house has also been completed. The principal corridors, the saloon, and lounges are now electrically lighted, gas having almost been done away with. The gas chandelier has been replaced by a number of pendant electric lights, which are very effective; they are run in two circuits planned in the form of two rings. The switchboard for this part of the house is fitted independently of the stage switchboard, and has been placed below the vestibule on the Bow-street side with access by a stalls corridor.

The rearrangement of the stalls with new exits, and the provision of a special stall corridor was an improvement of considerable extent. This alteration gives the auditorium additional seating accommodation, *i.e.*, two new boxes and some forty additional stalls. The stalls are now provided with three exits. The exit to Floral-street for the pit and first tier box holders has been remodelled; new entrances have been cut into the Bow-street portico, and thereby the whole of the carriage arrangements have been greatly improved, while the time occupied in filling and emptying the theatre is materially reduced.

The saloon has been improved by the addition of some large pictures and general redecoration, and a conservatory lounge has been constructed over the main porch. It contains bars and affords accommodation for smoking.

The warming and ventilation scheme of the auditorium is on the Plenum system. By adopting the Plenum system and doing away with the large chandelier which acted as an outlet in former years the existence of draughts will no doubt be diminished. The fans for the ventilation scheme are electrical fans, for which special mains have been run.

The alterations to the orchestra involved picking up the front of the stage with some light girders supported by steel columns, a space having to be formed underneath in the front of the stage to take a number of players.

The improvements in the decorations include the Royal box, Royal approach, and Royal smoking room. The corridors have been redecorated in green. New upholstery has been provided throughout including the tip-up seats, and the installation of a red silk drapery curtain by Messrs. Bertram in the proscenium opening has materially altered the appearance of the house.

The sanitary arrangements have been thoroughly overhauled, and the principal lavatories added to and ventilated. The lavatory appliances are by Messrs. Doulton. Several Blackman fans have been used to assist the ventilation.

The office accommodation at the corner of Bow-street has been remodelled, and now comprises an outer office, a secretary's room, a directors' room, and a telephone room, with approaches both from Bow-street and Floral-street. The management, further, have now at their command an elaborate system of public and private telephones, speaking-tubes, and bells. Every part of the house is now in close touch with the management. The box-office has been provided with private telephones from the libraries, and a private telephone to the nearest fire-station has also been installed.

The whole of the work has been under the direction of Mr. Sachs, except the electric lighting, which was carried out by Mr. E. Wingfield-Bowles. The principal contractors were:—Messrs. Colls & Sons; the Thames Ironworks, Ltd.; Messrs. Drew-Bear, Perks, & Co.; the Army and Navy Auxiliary Stores; Messrs. Bertram, Townsend, Tamplin, & Makovski, &c.

THE SANITARY INSTITUTE.—The Duke of Northumberland, Vice-President, will preside at the Sanitary Institute Coronation Dinner to be held on Monday, June 2, at the Midland Grand Hotel. Among those who will be present are Sir Joseph Fayer; Sir Francis Sharp Powell; Sir Samuel E. Scott; Sir William H. Preece; Sir Henry Norbury, Director General, Royal Navy; Surgeon-General W. Taylor, Director General, Army Medical Service; Mr. E. Barnes, Mayor of St. Pancras; and Mr. R. M. Hensley, Chairman of the Metropolitan Asylums Board.

COMPETITIONS.

WOLVERHAMPTON HOSPITAL FOR WOMEN.—At a meeting of the committee of management of the Wolverhampton and District Hospital for Women held on Friday, the 16th inst., the plans of Mr. A. Eaton Painter, of 30, Lichfield street, were accepted for the proposed new hospital to be erected in Park-road West, and Mr. Painter was appointed architect to carry out the work. In the competition eight designs from architects who are members of the Wolverhampton and District Architectural Association were sent in, and the assessor, Mr. T. W. Aldwinckle, F.R.I.C.A., in making his award, stated that the whole of the designs sent in bore evidence of careful study and thought, and indicated a good acquaintance with the subject.

OPEN SPACES.

THE Metropolitan Public Gardens Association have agreed to offer to lay out the churchyards of St. George's, Bloomsbury, and St. John's, Stratford, to take steps to secure the preservation of St. Peter's-square, Hammer-smith, and of some land that formerly belonged to Wandsworth Common and now occupied by the Patriotic Fund Commissioners, who, it is apprehended, will utilise it for building purposes, and to oppose schemes for building upon the churchyards of St. James's, Clerkenwell, and Holy Trinity, Stepney. The last-named burial ground, about one acre and a quarter in extent, was laid out by the Association in 1886; the Consistory Court granted a faculty in September, 1900, for an enlargement of the church, and in June, 1901, a supplemental faculty for the erection of a parochial hall, but the London County Council have applied to the Court for a revocation or modification of the latter faculty, as being contrary to the provisions of Section 3 of the Disused Burial Grounds Act, 1884.—The trustees of the Walcot Charity estate, Lambeth, have decided to open the enclosures of Walcot-square and St. Mary's-square, near Kennington-road, as playgrounds for children.—On the 10th instant Princess Christian opened the Victoria Recreation Ground, which extends over 17½ acres and lies on the main road to Barnet. The land has been secured as an open space with a recreation ground in commemoration of Queen Victoria's Second Jubilee, at a total expenditure of about 9,500*l.*, towards which amount the Middlesex County Council contributed 1,646*l.*, the Ecclesiastical Commissioners, who are lords of the manor, lent to the Urban District Council 5,000*l.* at 2 per cent. per annum to be repaid in the course of fifty years, and private individuals subscribed more than 3,000*l.*—On Whitsun Monday the Manor House Gardens at Lee were dedicated to the use and enjoyment of the people of London; the gardens appertained to the old manor-house, rebuilt in or about 1770; the manor now belongs to the Barings, having been purchased by Sir Francis Baring, Bart., from Lord Sondes in 1798, and belonged to the Crown during the reigns of Henry VIII. and his five successors on the Throne.—On the 10th inst. were opened at Ilford two parks—the one, 9 acres, given to the public by Mr. A. Cameron Corbett, M.P.; the other, 32 acres, acquired by the Urban Council from Mr. W. Mills, of Loxford Hall, at a price of 320*l.* per acre.—The Epping Forest Committee of the Corporation have under consideration a proposal that they should promote a scheme for purchasing, at a total outlay of 27,000*l.*, some lands from adjoining owners for an addition to the forest.—The County Council of Essex are in communication with the Ilford Council in respect of the preservation, at an estimated outlay of 20,000*l.*, of 800 acres of Hainault Forest, where, it is stated, numerous enclosures have been made of late to the prejudice of public rights.—Mr. Frank Lloyd has presented to Croydon 14 acres of land adjoining the Addington Hills (80 acres), near Shirley Common, which already belong to the borough, together with an adjoining area of 17 acres, which Mr. Lloyd lately bought for 5,000*l.*, and offers to the Croydon Corporation for 1,750*l.*—Mr. George Taylor will make a "Coronation" gift to Reigate of a park at Colley Hill, adjoining his own residence at Margery. The park extends over 25 acres on Colley Hill, which rises to an altitude of 740 ft., overlooking the town, from which an extensive and beautiful prospect is obtained. On one side the park is sheltered by Margery Woods; it is traversed by the ancient road—known as

the Pilgrims' Way—in its course from Hampshire through Surrey, and so along the northern downs into Kent, and contains an old quarry whence a plentiful supply of Reigate stone was formerly procured.—A park has been secured at Darlaston, in the Victoria-road, by purchase in part by the District Council and by gift of the remainder by the Mills family.—At Towyn, Merionethshire, Mr. R. J. Roberts has conveyed, for a merely nominal consideration, to the townsfolk, the beautiful Dolgoch estate, nearly 250 acres in extent.—We gather that Mr. A. Marshall Mackenzie will prepare the plans for the laying out of the public park, 45 acres, at Grant Lodge, which, together with the lodge, Colonel Cooper recently gave to the citizens of Elgin. The lodge will be converted for purposes of a museum, a public library, and the librarian's residence.

Illustrations.

AN ARTISTIC POSTER.

A GREAT deal has been said of late years, and quite truly, as to the possibility of designing posters in an artistic spirit, and in France especially two or three artists of genius have devoted themselves mainly to this branch of art.

There could hardly be a better example of this artistic treatment of the poster than the one which has been got up at Turin in connexion with the Art Exhibition there, and of which we have thought it well worth while to give a reproduction. Both in the general lines of the design and the character of the writing it is quite a work of art.

NEW ROOMS, WELBECK ABBEY.

We give illustrations of two rooms that form a part of the work now in progress at Welbeck Abbey, by the Duke of Portland.

It will be remembered that a fire destroyed part of this building, and the accompanying flooding with water made it necessary to "gut" the injured half of the house, known as the Oxford Wing. The external stone walls have been mostly preserved; but the rooms, corridor, and staircase, with their decorations, are new, and upon an altered plan.

For the Duchess's own rooms (boudoir, bedroom, and dressing-room), occupying one end of this wing, an Early Italian treatment has been adopted. The drawing shows the Duchess's boudoir, the chimney and doorways of which are of Istrian marble. The doors and woodwork generally are of Italian walnut, as also the coffered ceiling, with carvings and gesso work. The walls will be hung with silk.

The main portion of the house is at the same time undergoing great changes, with a re-disposition of its rooms, improving and lighting the approaches to the same, also providing a new top story under a copper roof.

The new dining-room is shown in one of our plates. The oak-panelled walls are spaced with a view to receiving the fine Vandycks belonging to the Abbey. At one end of the room is a minstrel's gallery. The wagon ceiling has enriched ribs.

Messrs. Ernest George & Yeates are the architects, and Messrs. Trollope & Sons the contractors, for this work.

The drawings are exhibited at the Royal Academy.

BATTERSEA WORKING CLASS HOUSES COMPETITION.

We give this week No. 3 of the plans by Messrs. Smith & Weald which obtained the first premium in the recent competition organised by the Battersea authorities.

It shows a two-storied house with two self-contained tenements of four rooms each; each floor having living-room and bedroom in front, with two bedrooms, scullery, and water-closet at the rear. The cubic contents of the block are 22,040 ft., and the estimated cost 734l.

ALTERATIONS TO WORKHOUSE AND COTTAGE HOMES, LANCHESTER.—At the monthly meeting of the Lancheater Guardians on the 15th inst. the Board accepted the competitive plans of Messrs. Newcombe & Newcombe, of Newcastle, for the alterations to the workhouse and cottage homes, at a cost of 11,420l.

Books.

Lighting by Acetylene. A Treatise for the Practical Lighting Engineer. By FREDERICK DYE, M.R.I., Consulting Engineer. London: E. & F. N. Spon, Ltd. 1902.

THIS book is written for those erecting, or intending to erect, acetylene lighting works, and for those needing either general information or details of construction. It is divided into seven chapters, under the following heads:—(1) "Carbide of Calcium," (2) "Acetylene," (3) "Acetylene Generation," (4) "Generators: Types and Examples," (5) "Purification of Acetylene," (6) "Burners and Appliances," (7) "Legal and other Regulations."

The author considers that "the lighting engineer who takes up acetylene will now or very soon find a wide and profitable field for this branch of his business," and that a good acetylene generator "will yield gas which will compare favourably in cost with coal-gas for a given light at 3s. 6d. per 1,000 ft." But, unlike many acetylene engineers, Mr. Dye is sufficiently ingenious to point out in a subsequent chapter that this comparison is made upon the assumption that the coal-gas is burned in flat-flame burners, and not in incandescent burners, which latter increase the lighting value of coal-gas to fully six times the figure adopted for comparison.

There is little doubt that Mr. Dye's policy of publishing the plain facts about acetylene will be more effective in advancing the acetylene industry than will the policy of less scrupulous advocates. We quite agree with the author that "the price of the gas is a subject that has had some doubtful treatment at the hands of generator makers, who, for obvious reasons, have grasped at and advertised theoretical figures, which the most perfect means of generation could never confirm in practice"; also that it is "important that the common idea of acetylene giving a light of 50 candles per foot should be swept away," since 34 candles per foot is the highest efficiency which can be fairly claimed.

The chapter on purification is, for the most part, excellent, but on p. 147 reference is erroneously made to bleaching powder as "calcic chloride." The active constituent of bleaching powder is calcium hypochlorite, a compound which readily parts with its chlorine, whereas calcium chloride is a more stable compound, commonly used by chemists for desiccating purposes. It is true that bleaching powder is sometimes improperly called "chloride of lime" in commerce, but never calcic chloride.

The book is copiously illustrated, and even those quite ignorant of the characteristics of acetylene and calcium carbide should be able to understand its entire contents without difficulty. It should prove of material service to builders, contractors, and others seeking practical information relating either to acetylene installations or portable acetylene lamps.

The Health Officer's Pocket-Book. A Guide to Sanitary Practice and Law. By EDWARD F. WILLOUGHBY, M.D., D.P.H., &c. Second Edition, revised and enlarged. London: Crosby Lockwood & Son. 1902. Pp. xxii., 424.

DR. WILLOUGHBY has endeavoured to provide for Medical Officers of Health and Sanitary Inspectors a handy work of reference in which they may find in a moment most of the facts, formulae, and data required in their daily practice. He claims to have taken the "pocket-books" published for the use of engineers and surveyors as his models, but he has certainly not attained the terseness and condensation which characterise these works. Some of the chapters are succinct treatises rather than mere collections of facts and figures. The result is that the work is more interesting than the title would lead the reader to expect. Part I. deals with "Practical Hygiene," and contains chapters on Mathematical Practice, Meteorological Practice, Demography and Statistics, Engineering Memoranda, Sanitary Practice, Potable Waters, Dietetics, and Scavenging. Part II. is entitled "Sanitary Law" and occupies, with the appendices, nearly half the volume. The first part is naturally the more interesting to our readers. Dr. Willoughby writes with know-

ledge and acuteness on the subjects which fall within the Health Officer's province, and provides food for thought as well as facts and figures for reference. Chaps. iv. and v. on "Engineering Memoranda" and "Sanitary Practice" might with advantage have been cut down. The Health Officer does not want formulae on the velocity of the flow in channels and pipes, or the cost of bored and driven-tube wells, and the engineer will certainly go elsewhere for the information; there are more modern formulae than those mentioned by Dr. Willoughby, and other forms of egg-shaped sewers than that illustrated. On p. 95 we are told that a 4-in. drain is large enough for most houses, but one of the "Rules respecting Drainage" (p. 387) states that "main drains shall not be less than 6 in. in diameter." We might quote other examples to show that the author is not quite in his element when dealing with the practical work of the architect and engineer, but will merely mention the jejune remarks on surveying, the condemnation of iron drain-pipes, and the recommendation that a drain under a building "should be laid in a bed of fairly fine concrete or asphalt 18 in. by 24 in. square in cross section." These, however, are only small blemishes, and Dr. Willoughby may be congratulated on having produced an interesting and valuable work. A word of praise is also due to the publishers. The book is clearly printed, well bound in limp purple leather and finished with gilt edges and rounded corners.

A Handbook of Hygiene. By A. M. DAVIES, M.R.C.S., D.P.H.; Lt.-Col. R.A.M.C.; late Sanitary Officer and Bacteriologist, Army Headquarters, India; &c. Second Edition, illustrated. London: Charles Griffin & Co., Ltd. 1901. Pp. xii., 624.

THIS book rather resembles Dr. Willoughby's, being in the main an extended treatise on the subjects discussed in Part I. of the "Health Officer's Pocket-Book." In both books there is evidence of a lack of intimate knowledge of building and engineering details. Lieut.-Colonel Davies does not appear to be quite clear as to the difference between interception and disconnection in drainage systems, nor is he clear as to other details of house sanitation or the design of hot-water heating apparatus, &c. His book is, however, a mine of valuable information for doctors, bacteriologists, and other specialists, and laymen will find in it much of interest with regard to clothing, food, exercise, bathing, and the causation and prevention of disease. The sections on air and water are admirable, the evidence adduced in regard to the causation of disease by impurities in these "elements" of the ancients being particularly instructive. One small error may, however, be mentioned; the cubic space required in board schools is not 100 cubic ft. per child as stated on p. 52, but varies in mixed schools from 120 in small classrooms to 140 in large rooms, and from 108 to 126 in infant schools. Perhaps the author has made an allowance for the space occupied by the teacher, the children, and the furniture, but if so, the fact ought to have been stated. The book is carefully printed in small but clear type, well bound, and provided with a good index. We have pleasure in giving it a hearty recommendation.

Surveying, and Surveying Instruments. By G. A. T. MIDDLETON, A.R.I.B.A. Second Edition, revised and enlarged. London: Whittaker & Co. 1902.

IT is not necessary to refer in detail to the main features of this handy little work, which expresses very clearly and very well some of the most salient points connected with the art of surveying. In an elementary treatise of the kind, it is, of course, impossible for the author to do more than to scratch the surface of the ground traversed, but the important thing is that the lines inscribed should be in the correct direction. In the present issue the most noteworthy additions relate to the use of the plane table, to the computation of areas, and to the setting out of land and curves. By the aid of the plane table the operator is enabled to obtain details in the field without chaining and plotting or taking angular measurements, and it is therefore an instrument whose use should be understood by surveyors desiring approximately accurate results, such as are required in exploring expeditions, or in filling in the topographical details of more scientific surveys.



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TORINO • APRILE • NOVEMBRE • 1902

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**PRIMA
ESPOSIZIONE INTERNAZIONALE
TORINO • APRILE • NOVEMBRE**



**BIENNIALE D'ARTE
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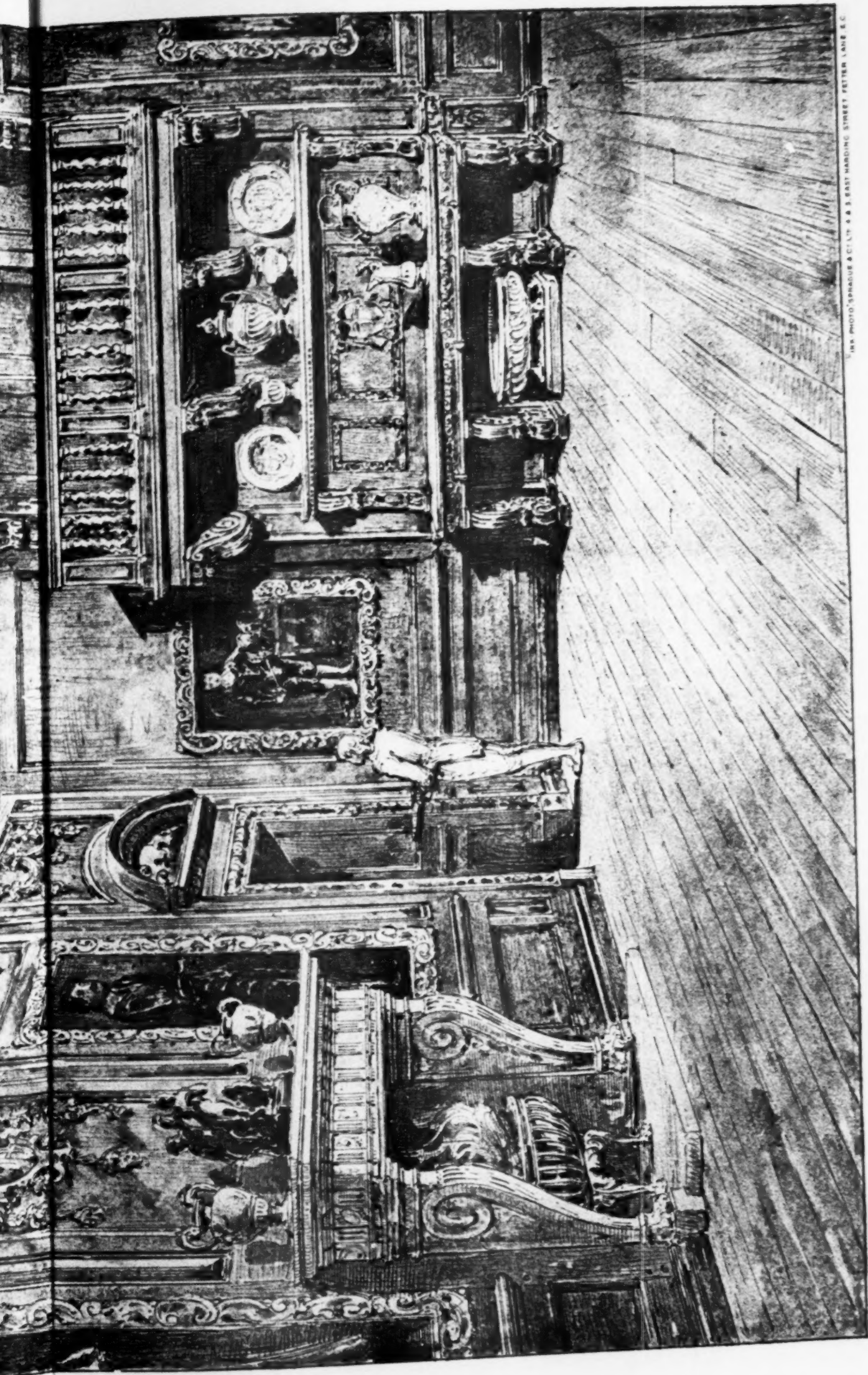
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THE BUILDER, MAY 24, 1902



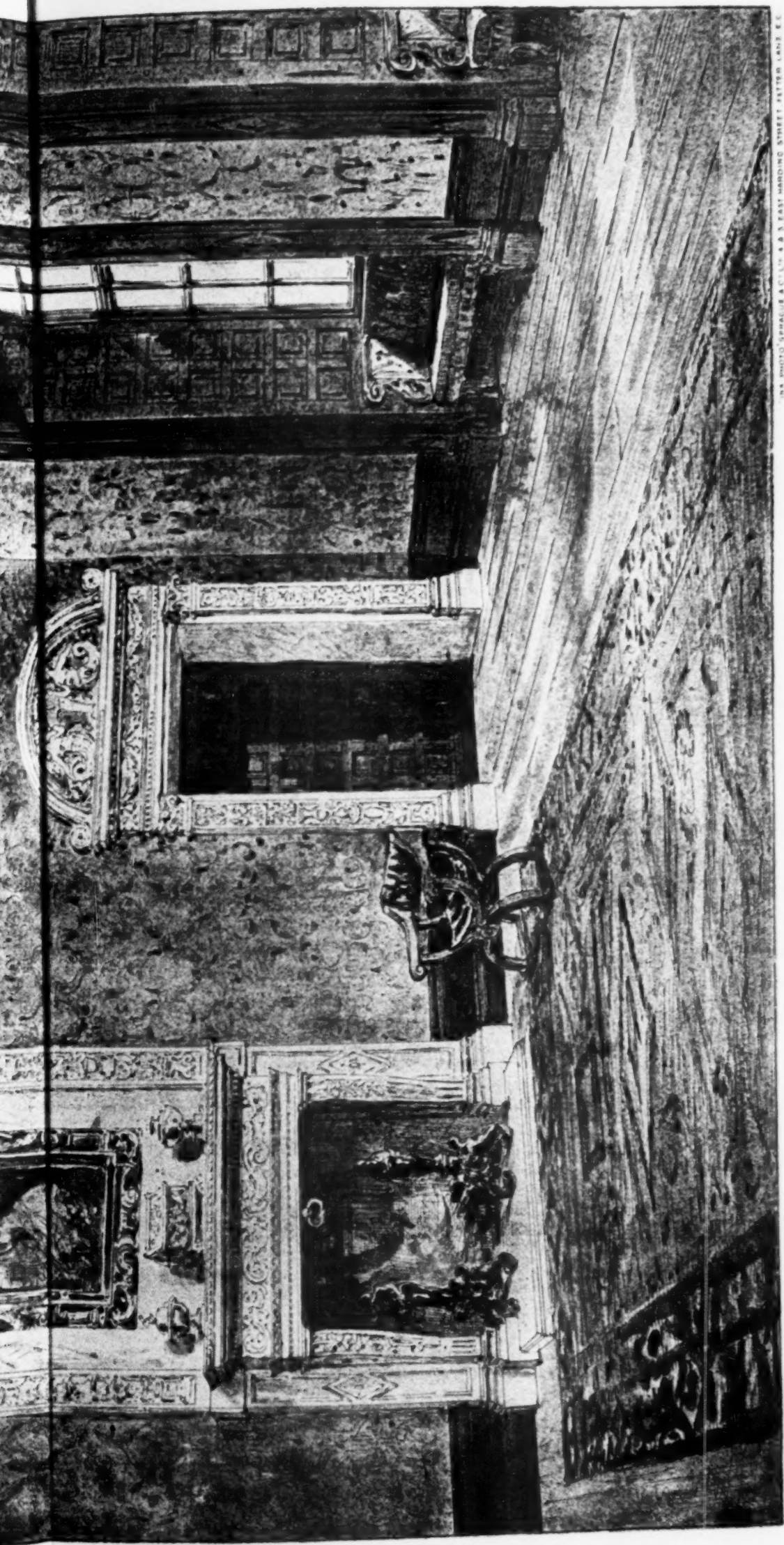
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FOR HIS GRACE
THE DUKE OF
PORTLAND
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THE BUILDER, MAY 24, 1902





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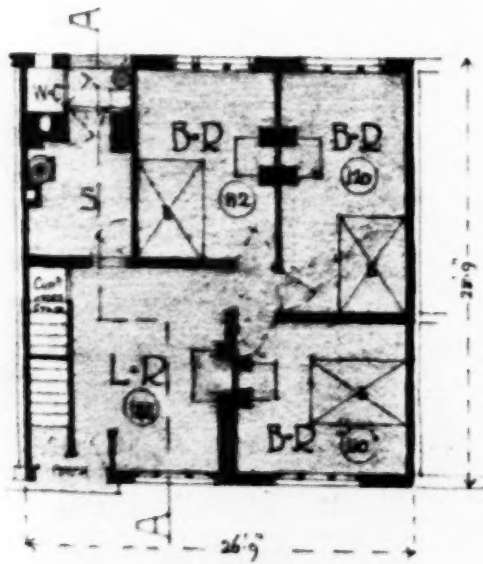


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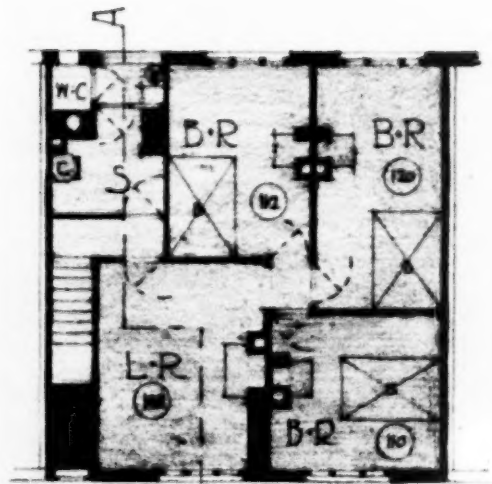
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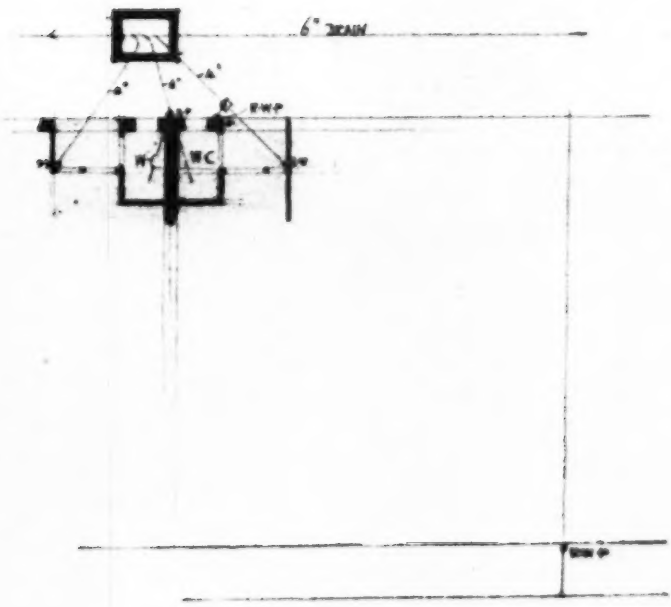
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The chapters now included add considerably to the usefulness of the work.

The Modern Treatment of Sewage. By H. C. H. SHENTON, M.S.E., Gold Medallist, Society of Engineers. London: S. Edgecumbe-Rogers.

A MUCH more imposing volume might have been made of the 117 pages of text comprised within the limp covers of this book, but as the price would probably have been doubled, the student has no cause for grumbling. The work is a reprint of articles contributed to the *Local Government Journal*, and is divided into fourteen chapters dealing with the design and construction of sewers, sewer-flushing and ventilation, sewage-disposal, &c. The title is somewhat misleading, as the subject of sewage treatment occupies less than one-third of the book, but Mr. Shenton has much useful information to impart in the earlier chapters, and they may be regarded as a long but valuable introduction to the final chapters. We have pleasure in commending the work to students; they will find it a convenient summary of modern theory and practice, although the description of percolating filters is inadequate, and seems to show some lack of knowledge of the most modern types. We may point out that "oval" is not synonymous with "oblong," as Mr. Shenton seems to think (pp. 43 and 44), and that "plenty long enough" is an expression of which Dean Alford would not have approved. It is a pity that the book is issued without an index.

The Business Encyclopedia and Legal Adviser. By W. S. M. KNIGHT, Barrister-at-Law. Six volumes: Vol. I, A to C. London: The Caxton Publishing Co. 1902.

THIS is a new, ingenious, and rather ambitious book. The author describes it as being an "encyclopædia of practical affairs;" but "practical affairs" is so vague and popular a term that anything may be comprised under it, and a very cursory glance at this volume will show that this is the case. We find, of course, "Auctioneers" and "Architects" as headings, but we also find "Beggings Letters" and "Baby Farming." It contains, nevertheless, a great deal of useful information combined with a good deal of commonsense advice. The character of the work can best be exemplified by the following quotation:—

"Architects are those whose profession it is to design and superintend the construction of buildings generally. The architect must be acquainted with the historical and artistic principles of building; with the cost of buildings and the means of keeping such cost within limits; with the strength, durability, and suitability of materials, and the methods of their application; and also with a considerable part of the law and incidental to building operations. The profession is open to all without examination, the result being that many a so-called architect is to the public a snare and a delusion."

CONGRESS OF FRENCH ARCHITECTS.

THE thirtieth Congress of French architects will commence on Monday, June 2, by the reading of various communications, and a visit to the Palace Hotel, the Sevres manufactory, and a new chapel at Issy.

On Tuesday, the 3rd, the members will visit the Hotel of the Crédit Lyonnais, which has just been enlarged, and will hear a paper by M. Héron de Villefosse on a medal of Septimus Severus and on the restoration of the great altar at Pergamos. At the same sitting a paper will be read relating to the position of architects in respect to the law concerning accidents during building operations.

On Wednesday, the 4th, the sitting will open with some discussions on points raised at the last Salon, and by two papers, one on *Merulius Lacrymans*, the other, by Mr. Charles Lucas, on artistic property in works of architecture, and the history of the subject from 1793 to 1902. In the afternoon of the same day members will visit the memorial chapel in the Rue Jean Goujon, various houses in the quarter of the Champs Elysées, and the Hotel of L'Illustration.

On Thursday, the 5th, there will be an excursion to Sens and Villeneuve-sur-Yonne.

On Friday, the 6th, after the general annual meeting of the Caisse de Défense Mutuelle, the members of the Congress will visit the new Caserne des Célestins, the Buffet of the Gare de Lyon, the electrical works of the Metro-

politan Railway, and the Caserne des Pompiers at Montmartre.

On Saturday, the 7th, M. C. Gautier will read a memoir of the late M. Coquart; M. Saladin will read a paper on a family of Tunisian architects of the seventeenth century; and the latter part of the day will be occupied by the usual distribution of "Récompenses," and the annual dinner at the Hôtel Continental.

BOOKS RECEIVED.

OPEN SPACES, FOOTPATHS, AND RIGHTS OF WAY. By Sir Robert Hunter, M.A. Second edition. (Eyre & Spottiswoode.)

THE LAW RELATING TO PERSONAL INJURIES. By F. G. Neave, Solicitor. (Erlingham Wilson, 18, 61.)

TRANSACTIONS OF THE SOCIETY OF ENGINEERS FOR 1901. Edited by Perry F. Nursey. (E. & F. N. Spon.)

REFRIGERATION, COLD STORAGE, AND ICE-MAKING. By A. J. Wallis Taylor, C.E. (Crosby Lockwood & Son.)

THE CITY OF ST. ALBANS. By Charles H. Ashdown. (The Homeland Association.)

Correspondence.

RAIN-WATER TANKS—RULE FOR SIZE.

SIR.—In your issue of May 17, in the "Student's Column," I see a rule is given for finding the requisite capacity for rain-water storage tanks. Your contributor states that as a rough rule a storage capacity of two gallons for every square foot of horizontally measured surface of catchment area is "often said to be sufficient to store the heaviest rainfall and to provide a reserve in time of drought." Now as two gallons on a square foot of area would be a depth of nearly 4 in., and as 4 in. of rainfall in one day is an exceedingly rare occurrence in the average English district, that part in your contributors' statement may be considered trustworthy; but that a tank capacity of two gallons per square foot of catchment area will provide an adequate reserve in time of drought is very much dependent upon the relative proportion of the catchment area to the amount of water required. I take it that what the designer of rain-water storage tanks wants to know is, given the yearly amount of water required and the average yearly rainfall, how large must the tank be and how large the catchment area to ensure a full supply year in and year out over an indefinite number of years?

To simplify the necessary calculation we will as a first case assume that the catchment area is large enough to give, after allowing for absorption by and evaporation from the surfaces of such area, the full amount of water required during a year, should none be allowed to run to waste. The tank capacity must then be such that in wet periods it shall never overflow, since all rain that falls must during wet periods be stored for use during dry periods. The only method of arriving at the sum of excess supply over regular requirements is to take a series of actual records of rainfall, the longer the better, and by subtraction of the daily requirement from the daily fall, or fall plus the accumulated reserve in the tank, find out what is the maximum amount of water that will be held in excess as a reserve against subsequent drought. For example, as follows:—

The rainfall on Berkhamstead Common during the twelve years ending December 31, 1901, has been by observation 304.27 in. This gives a mean annual rainfall of 25.35 in. We have assumed that the catchment area has been planned of such a size that the average annual amount collected from it with the known mean annual rainfall equals the annual amount of water required. We will further assume that the loss by evaporation and absorption is 1.35 in. in the year. This leaves us a net yield from the catchment area of 24 in. per annum. The

amount used is then also 24 in. on that area per annum. To subtract the daily requirement from the daily falls as recorded over those twelve years would take several days to work out, so that we will be content with subtracting the monthly requirement, 2 in., from the monthly falls as recorded during that period, month by month. Thus, at the end of every month we shall ascertain how much water there is in the tank, supposing that it be large

enough never to overflow. It would take too much of your space to give the monthly figures, but the result of the calculation which I have made shows that the maximum accumulated surplus of supply over requirements was 16.12 in. (on the area in question, whatever that area may be), and reached that figure in March, 1897. In order, therefore, to prevent the water running to waste, and so causing a lack in succeeding droughts, the tank should have had a capacity of at least 16.12 in. x area of catchment. This is equivalent to about two-thirds of the mean annual rainfall. If, therefore, the catchment area be 1 sq. ft. and the mean annual rainfall less evaporation be 24 in., and the requirements equal the mean annual supply, then the storage tank should hold two-thirds of 24 in. x 1 sq. ft. = two-thirds of 2 cubic feet = 1 1/3 cubic feet = 8.5 gallons for every square foot of catchment area, or over four times as much as your contributor states in his rough rule.

In the second case the catchment area may be larger than is necessary to just give enough water with the mean annual rainfall, and then the storage tank would not need to be so large. For instance, if the catchment area were large enough to give all the water required with the minimum yearly fall, the tank in that case would only need to be large enough to contain the maximum accumulated daily surplus of fall over requirements during the one most droughty year. The driest of the above-mentioned series of years was 1898, when the rainfall on Berkhamstead Common was only 17.66 in. I have not worked out the accumulated surplus of daily fall over requirements for that year, but for the year ending September 30, 1901, that maximum amounted to 3.32 in. on April 13 and 14, 1901. Consequently I should say that given a catchment area large enough in the driest possible year, to supply all the water required, the size of the storage tank should be 3.32 or, say, one-fifth of the minimum yearly fall—perhaps a quarter would be safer for the drier year. Conditions intermediate between those of the two cases here worked out would give results intermediate.

It must be remembered in making use of the above figures that little or no margin of safety has been allowed, and that it would be probably quite misleading to apply them to cases where the mean annual rainfall either greatly exceeded or fell short of that of the case under consideration, viz., 25.35 inches.

My excuse for this lengthy communication must be that having occupied the whole of the very rainy Whit-Monday on working out these figures, I thought the result might be placed at the service of your readers, and be of some value to them. Any corroborative evidence or criticism on my statements would be very welcome to me.

W. B. HOPKINS, A.R.I.B.A.

The Student's Column.

PART III—PRIVATE SEWAGE DISPOSAL.

CHAPTER 19.—SEWAGE.

BEFORE discussing the various methods of sewage-disposal, it will be well to consider briefly what sewage is, and some of the most important changes which take place in it during the process of purification.

In the first place, it must be noted that sewage from buildings of the domestic class varies both in volume and in composition at different hours of the day.

The following analyses of the dry-weather flow from a small town are given by Dr. Rideal in his work on "Sewage and Sewage Purification," and show the variation in quality very clearly:—

Time.	Flow in gallons per 24 hours.	Parts per 100,000.						
		Solids in Solution.	Cl.	O consumed.	Free NH ₃ .	Alb. NH ₃ .	Nitric N.	Nitrous N.
10 a.m. to 5 p.m.	54,000	77.5	12.95	7.73	8%	1.5	None	None
6 p.m. to 1 a.m.		45.0	6.95	6.91	2.90	0.6	"	"
2 a.m. to 9 a.m.		34.0	4.95	5.57	0.90	0.35	"	"

amount used is then also 24 in. on that area per annum. To subtract the daily requirement from the daily falls as recorded over those twelve years would take several days to work out, so that we will be content with subtracting the monthly requirement, 2 in., from the monthly falls as recorded during that period, month by month. Thus, at the end of every month we shall ascertain how much water there is in the tank, supposing that it be large

"In the morning urine is prominent, as shown by the chlorine and by other signs; later on, soapy water makes its appearance, with a white scum of fatty lime-salts that tends to clog filters and leave a greasy deposit on channels; fixed alkalinity also appears, with an increase in the sodium salts; subsequently the sulphuretted odour of vegetable washings

is evident, and the liquid may even become temporarily acid."

This variation in the quality of sewage at different hours of the day furnishes a strong argument in favour of the storage of at least a day's flow, so that the tank-effluent will be fairly uniform in composition. Storage has also other important advantages which will be discussed at a later stage.

The flow of sewage varies also in quantity at different hours of the day. No hard-and-fast rule can be laid down as to this variation, as so much depends upon the nature of the buildings and the habits of the occupants. From midnight to about 6 a.m. there will, as a rule, be no flow at all in dry weather, if subsoil-water is excluded from the drains and if the water-fittings are perfect; nearly the whole of the daily flow will be discharged between 6 a.m. and 9 p.m., but during this time there will be great fluctuations. In the sewers of towns it has been found that one-half of the daily flow is discharged in about six hours, the maximum flow generally occurring between 10 a.m. and noon.

In considering chemical analysis of sewage and sewage-effluents, certain points ought to be borne in mind, in order to appreciate the facts which they are intended to disclose.

The solid matters in sewage vary according to the nature and quantity of the water supply and other circumstances. Part of the solid matter is mineral, and part organic, and of both kinds some is in solution and some in suspension. All water supplies contain mineral matter in solution, but the amount varies very widely, and the composition of sewage exhibits a corresponding variation. The mineral matter, whether in suspension or solution, is of little importance. The offensiveness of sewage is due to the presence of organic matter, which may be derived from feces and urine, vegetable and animal food, waters of ablution, &c. It has been said that a typical average sewage contains in suspension about thirty grains of solid matter per gallon, of which twenty grains are organic and ten mineral, and in solution about seventy grains, of which twenty are organic and fifty mineral, but the ratios vary according to the freshness of the sewage, &c. In the purification of sewage nearly all the suspended matter is removed, and a very large proportion of the organic matter in solution is converted into harmless elements and compounds.

The amount of the chlorine furnishes a good index of the strength of sewage, and as it is not removed by the ordinary processes of purification, it affords the best means of comparing the character of the crude sewage and of the purified effluent which is said to have been obtained from it. In a pamphlet describing a patented process of purification, the following analyses appear:—

[GRAINS PER GALLON.*

	Free Amm.	Albd. Amm.	Chlorine.	Total Solids.
Crude Sewage.	5.0	0.75	8.4	38.0
Effluent	1.2	0.4	5.0	4.5

* To convert grains per gallon into parts per 100,000, multiply by 10 and divide by 7.

The amount of albuminoid ammonia in this effluent is far from satisfactory, but the figures speak still more strongly against the process when the chlorine is taken into consideration.

Let x = the volume of subsoil-water gaining access to the sewage during the process of purification and containing a parts of chlorine per 100,000; y = the volume of crude sewage containing b parts per 100,000; and $x+y$ = the volume of effluent containing c parts per 100,000, then

$$(x \times a) + (y \times b) = (x + y) \times c, \text{ and}$$

$$x = \frac{b-c}{c-a} y.$$

Taking the figures in the foregoing analyses, and converting them into parts per 100,000, and assuming the subsoil water to contain 2 parts of chlorine per 100,000, we have:—

$$x = \frac{12.0-7.1}{7.1-2.0} y = \frac{4.9}{5.1} y = .96 y.$$

On this assumption, therefore, the sewage had been diluted with an approximately-equal volume of subsoil water, or the analysis of the effluent represented a 50 per cent. weaker portion of the daily flow than that of the crude sewage. In either case, the amount of purification shown by the analysis requires correc-

tion, and the albumenoid ammonia in the effluent must be increased to about 0.4 grains per gallon or 0.5 parts per 100,000. The purification is utterly inadequate, a commonly-accepted allowance for sewage effluents being 0.1 part of alb. amm. per 100,000.

Chlorine is present in all drinking water, and in much rain-water, but the chlorine in domestic sewage arises chiefly from common salt in the kitchen wastes and in urine. It has been estimated that on the average human urine amounts to about 40 oz. per head daily, and that the chlorine in urine is about 500 parts per 100,000. The proportion in sewage of a domestic character varies very largely according to the degree of dilution, being in some cases more than 20 parts per 100,000, and in others less than 5; at Buxton, according to one analysis, it is only 2.3, and at Wolverhampton trade effluents raise it to more than 100.

The most important figures in a chemical analysis are those relating to the organic matter, and given either as "albuminoid" or "organic" ammonia, or as "oxygen absorbed" in a stated time. The Derbyshire County Council has adopted a standard of 0.1 part of alb. amm. per 100,000 for sewage effluents, and the Mersey and Irwell Joint Committee 0.14. The "oxygen absorbed" standard adopted by different authorities ranges from about 1 to 2 parts per 100,000 in four hours, but the methods of determination differ and the figures of different analysts are not always comparable.

Dr. Sidney Barwise, Medical Officer of Health for Derbyshire, recommends the following standard for sewage effluents:—

	Parts per 100,000.
Total suspended matter	less than 3.0
Oxygen absorbed at 80 deg. F.	" "
in 4 hours	" " 1.5
Albuminoid ammonia	" " 0.15
Nitrogen as nitrates	at least 0.25

Definite standards based on chemical analyses are not, however, entirely satisfactory. Drs. Kenwood and Butler have shown that sewage-effluents are remarkably unstable—"what may be regarded as finished effluents may undergo daily changes so great that analyses, made even on consecutive days, give results so varying as to constitute the sample, as judged by present methods of analysis, a totally different liquid." In some effluents, the albuminoid ammonia increases, while in others it rapidly declines; others again, of an offensive character, may have, when fresh, a comparatively small amount of albuminoid ammonia and a trace of nitrates, but may become inodorous concurrently with an increase in the alb. amm. and the disappearance of the nitrates. "The fact is that albuminoid ammonia, like oxidisable organic matter, is only a partial estimate of the total organic matter present, and represents only the less stable portion What is needed undoubtedly is an inclusive estimation of the organic matter still in solution in an effluent, and until we get that it is impossible to lay down a hard-and-fast chemical standard applicable to all cases."

The changes to be effected in sewage by the process of purification include the removal of nearly all the solids in suspension, the reduction of the putrescible organic matter to such an extent that the effluent is inodorous and non-putrefactive, and the beginning of the conversion of the organic nitrogen into harmless nitrates. Some of the solids in suspension are removable by simple sedimentation in tanks, or by a purely mechanical straining action on the surface of land or in filters. They may also be largely reduced by chemical precipitation. It is now well known that bacteria play an all-important part in breaking up organic matter in suspension, and in converting it by various stages into gases, nitrites, and nitrates, &c., and this knowledge has been put to practical use in most of the modern systems of sewage purification. These purifying bacteria are present in normal sewage itself, and carry out their important duties in sewage-tanks, contact-beds, and filters, and in the soil of sewage-farms.

What is required in an effluent is that it shall not be putrefactive, and the incubation test is often employed to determine this. Mr. Adeney has proposed an incubation test, which takes into consideration the water of the river into

which the effluent is discharged: "The limit of impurity to be allowed in a water should be such that, when a given volume of it is mixed with a given volume of fully-aerated river-water, and the mixture kept out of contact with air, a decided oxidation of the ammonia originally present into nitrous or nitric acid shall be indicated."

Drs. Kenwood and Butler are of opinion that "one of the best tests for a satisfactory effluent is to see if nitrates are present after incubation at 80 deg. Fahr. for forty-eight hours, and if they are it will remain inoffensive no matter whether the original albuminoid ammonia was .05 or .5 part per 100,000." They add that all effluents should certainly conform to the following requirements:—"They should contain but very little suspended organic matter (certainly not more than five parts per 100,000); they should possess no odour of sulphuretted hydrogen; and there should be no physical evidence of putrefaction when they are incubated for a week in a closed vessel at 80 deg. Fahr."

In other words, a purely chemical analysis appears to be of comparatively little use. A satisfactory effluent is one in such a state of progressive purification that it will not putrefy or cause offence in any stream or body of water into which it may be discharged, but, on the contrary, will continue to improve. At the Manchester inquiry it was found that the effluents from the filter-beds had in many cases a decidedly beneficial effect on the water of the Ship Canal into which they were discharged.

GENERAL BUILDING NEWS.

BIBLE CHRISTIAN CHAPEL, PLYMOUTH.—Memorial stones in connexion with the new Bible Christian Chapel in course of erection in Embankment-road, Plymouth, were laid on the 7th inst. The architect is Mr. H. J. Snell, and the building will provide seating accommodation for 750 persons. The amount of the contract placed with Mr. J. H. Paynter, Plymouth, was 4,270*l.*

CHURCH, KIMBERWORTH, ROTHERHAM.—On the 8th inst. the Archbishop of York consecrated the new Church of St. Paul, in Kimberworth-road. The site contains 1,320 square yards, and the church erected on it is only part of a building scheme, the plans for which have been prepared by Messrs. Stock, Page and Stock, of London. Accommodation is provided for 250 persons, but when the two additional bays have been added to the nave, and side aisles have been erected, the seating space will be largely augmented. This work, and the building of a tower, is left for a future time. The total cost of the church as it now is is stated to have been 2,800*l.* The contractors have been Messrs. Thornton & Son, of Rotherham.

HOLY CROSS NEW CHURCH, ARDOYNE, IRELAND.—This building was dedicated on Whit Sunday. The church consists of a nave and aisles, with large ritual chancel and side chapels, towers, baptistry, and Calvary chapel. In addition there is a Lady Chapel, divided from the south aisle by an arcade of coupled columns of Siberian marble. The principal entrance to the church is through the great west doors, which give access to the narthex under the organ gallery. The organ gallery is of timber, decorated and supported on polished marble columns, having marble bases and carved stone capitals. The carving of the external capitals has in several instances marked Celtic characteristics. The figure carving was the work of Mr. James Owens, of Dublin and Preston, the carving of the nave and other capitals having been executed by Mr. Thompson and Mr. Copeland, both of Belfast. Of the exterior, the most imposing feature is the west front, with its heavily-moulded cornices and great west door, the tympanum of which is filled with a sculptured group by Mr. Owens, and representing the "Taking Down from the Cross." Flanking the entrance on either side are the towers. The whole of the general contractors' work was carried out by Messrs. James Henry & Sons. The church has been built from the designs of the late Mr. Walter G. Doolin, M.A., and Mr. R. M. Butler, of Dublin, architects.

PRIMITIVE METHODIST CHURCH, BRADFORD.—The foundation-stones of the new Primitive Methodist chapel which is being erected at Daisy Hill, Bradford, were laid recently. The new chapel will be constructed of local stone. The length will be 75 ft., width 42 ft. (inside measurement), frontage 56 ft., and front elevation 50 ft. The front will face Smith-lane, looking towards Bradford, and at one corner there will be a small stone tower surmounted by a lead-covered spire. There are to be vestries for minister and choir, and a classroom or church parlour, and the building will also have a horseshoe gallery and an organ chamber, the latter situated behind the pulpit. The internal fittings will be of stained and varnished pitch pine, while the windows will be filled with leaded cathedral glass. Seating accommodation will be provided for about 500 persons. It is estimated that the building

* "Sewage Purification and Standards of Purity," by Drs. Kenwood and Butler, *Journal of the Sanitary Institute*, July, 1901.

will cost about 2,000l. The architect is Mr. T. E. Davidson, of London and Newcastle, whose plans were chosen in competition.

ST. MARGARET'S CHURCH, POLMADIE, RENFREWSHIRE.—St. Margaret's Church, Polmadie-road, which has just been dedicated, consists of a large nave, with a side aisle divided from the nave by a high arcade of four stone arches. The chancel is 30 ft. deep, and contains the oak choir stalls, and at the back, on a platform elevated several steps, is the oak communion table. The chancel is lighted by a three-light window in the gable and two side-lights. There is a chapel on one side and an organ chamber on the other, and near the entrance porch is a wood-vaulted recess for the font, which is designed as a basin projecting from a niche in the wall, and supported on columns. The church is built of red freestone throughout. The roofs are of dressed timber, open to the ridges. The floors of the chancel, nave passage, &c., are laid with red tiles. The church is seated with chairs, and accommodates 800 persons. The hall is built of red pressed brick, with timber roof, and accommodates about 300 persons. The manse, which occupies the south-east corner of the site, is built with hollow walls and fireproof floors. The whole works have been carried out to the designs of Mr. P. Macgregor Chalmers, architect, with Mr. R. Kelly as clerk of works. The cost will be between 6,000l. and 7,000l.

METHODIST CHURCH, SUNDERLAND.—The foundation-stones of the new Thornhill Church, Sunderland, have just been laid. The buildings will occupy a site at the corner of the Burn Park-road and Beechwood-street. At the corner a tower, surmounted by a spire and vane, will rise 75 ft., and in this will be placed a dual-faced timepiece. There is a frontage of 130 ft. overlooking the Burn Park, and the whole of the main entrances will be in this elevation. Three portals give admission to the church, through an outer and inner porch, the staircase to the gallery being within the tower. The church itself will consist of nave, clearstory, aisles, transepts, and chancel, and an end gallery over the entrance porches. It will have a seating capacity for 520 adults, which can be augmented to about 620 as occasion requires. The nave arcades, and choir arch will be worked in Denwick freestone, and the pulpit will have a base of the same material, the upper part being carved in oak. The chancel is raised three steps above the nave level. The roof will be of pitch-pine, three-quarter open timbers, with chamfered and moulded hammer-beam couples. At the entrance to the church are separate cloak-rooms for ladies and gentlemen. The school, which is recessed from the main road by two front classrooms, will have accommodation for 300, and will be divided into classes, with separate side classes for senior and infant scholars, while a movable rostrum will allow of its conversion into a public hall. The roof is similarly treated to that of the church. The corridor is placed at the side of the school, running its whole length, and is recessed for coats and hats. The buildings will also contain a church parlour and seven vestries, a kitchen-vestry being provided. The whole will be lighted by the electric light, and the windows will be glazed in cathedral-tinted glass. The buildings have been designed and the work will be carried out under the supervision of Messrs. W. & T. R. Mill-urn and J. Ezra Miller. The contractor is Mr. W. B. Cooper, of Sunderland, and the cost will be about 7,600l. The clerk of works is Mr. R. F. J. Carter, of Sunderland.

BAPTIST SCHOOLS, HISTON, CAMBRIDGE.—These schools were opened on the 19th inst. The school-room is divided up into a number of classrooms by means of swivel partitions, which, when thrown back, make one large hall. Two large seniors' classrooms are provided, together with infants' room, kitchen, class-rooms for boys and girls, and the usual offices. The plan is of nave and aisle arrangement (the classrooms being in the aisles). Timber columns and arches carry the clearstory. The interior joinery is stained transparent green and varnished. The external facings are of red brick, with Bath-stone dressings. The roof is covered with green slates. The heating is by hot water on the low-pressure system. The contract was let to Mr. H. Feast, Maddenham, and amounted to 1,851l. The architects for the buildings, and for the church adjoining (recently completed) are Messrs. George Baines and R. Palmer Baines, Clements Inn, Strand, W.C.

WORKMEN'S DWELLINGS AT HIGHER WINCORANK, SHEFFIELD.—Some time ago the Sheffield City Council approved a proposal that the Health Committee should be asked to bring forward definite plans for a scheme of working-men's dwellings, to be erected on one or other of the sites acquired by them. In accordance with this resolution the City Surveyor (Mr. C. F. Wike) has prepared rough plans for a first batch of houses on the estate belonging to the Corporation at Higher Wincorank. These plans have been approved by the Housing Committee. The proposal is to lay out one street for the present, and the plans show 104 dwellings, made up as follows:—Eight blocks containing two self-contained cottages, and four flats in each block; seven blocks, containing four cottages in each block; and twenty-eight semi-detached cottages. Most of the cottages will be four-room tenements, but a few of them, forming the ends of the blocks, will be larger.

The flats will each have two rooms, with conveniences, and the first-floor flats will be separately entered from the house on the ground floor. It is not proposed to make any of the buildings more than two stories high.

BUSINESS PREMISES, FRASERBURGH, N.B.—These premises are being erected in Cross-street and Mid-street, Fraserburgh, for Messrs. A. Macdonald & Sons. The buildings are Scotch Baronial in character, and are built of grey granite ashlar. There are three stories, the ground floor being occupied by shops. The architects were Messrs. D. & J. R. McMillan. The contractors:—Mason, Mr. James Rollo, Fraserburgh; carpenter, Messrs. Scott & Macdonald, Fraserburgh; slater, Mr. James Reid, Fraserburgh; plasterer, Mr. Alexander Wiseman, Fraserburgh; plumber, Messrs. Ferguson & Co., Fraserburgh; painter, Mr. James Stewart, Fraserburgh; and ironwork, Messrs. J. S. Batchen & Co., Fraserburgh.

VICTORIA HALL, WIGAN.—The memorial stone was laid recently in connexion with the Victoria Hall, Wallgate, Wigan, which is itself intended to be commemorative of her late Majesty. The building, which is of brick, is being erected on a plot of land opposite the Trencherfield Mill, near the Canal Bridge. The building will have two dining halls for men and women, which will be opened daily. The architects were Messrs. J. B. & W. Thornley, of Wigan.

MUSIC HALL, GREENOCK.—At Greenock Dean of Guild Court, on the 15th inst., Mr. J. F. Arthur applied for warrant to erect a music hall at the corner of West Blackhall-street and Ker-street, on the site of the circus buildings. The architects are Messrs. Boston, Menzies, & Morton. The whole structure is to be fireproof, and the proscenium is to be shut off from the auditorium by a fire-resisting screen. The proscenium will be 30 ft. deep, the stage 50 ft. wide and 40 ft. deep, and accommodation is to be provided for over 1,700 persons. The application was adjourned for a fortnight to enable of reports being prepared by Firemaster Taylor and Mr. Devine, sanitary inspector.

MUNICIPAL BUILDINGS, HEREFORD.—The foundation stone in connexion with the new municipal buildings, Hereford, was laid by Princess Henry of Battenberg recently. The principal entrance is in the centre of St. Owen-street front, through a vestibule into a large hall. There is a grand staircase immediately facing. The offices are grouped practically around the hall, with a porter's room, telephone service, and cloakrooms for officials and clerks conveniently situated. On a mezzanine floor at the height of the front landing or staircase, the surveyor's department is placed, and the inspectors and workmen, &c., can use the public gallery stairs at the rear. The first floor is devoted to the assembly hall, council chamber, &c. The top floor is devoted to the caretaker's house and kitchen for the assembly room, stores, &c. In the basement are the weights and measures department, laboratory, and stores for the different departments, likewise heating chamber and coal store. The building is in Renaissance in style. The heating will be by hot water and radiators on the low pressure system. The ventilation will be effected by an electric motor in the fleche over the assembly room roof. Externally, the St. Owen-street front will be faced with terra-cotta from Messrs. Doulton's, filled with cement or coke-breeze concrete. The roof is to be covered with Westmoreland green slates, and all the external woodwork of the fleche is to be of the best quality English oak. Internally the walls generally will be plastered and finished in a washable distemper, terra-cotta, or other approved tint. The assembly-room and council-chamber will have panelled dados of wainscot oak. The grand staircase is to be of polished York stone, moulded with Doulton's Carrara marble balustrade. The coved ceiling over is to be in stained glass and leaded lights. All the doors, architraves, and joiners' fittings generally will be executed in wainscot polished, the floors of the hall and landing will be in polished marble mosaic; with centres and borders to special design. The entrance lobbies, &c., will have the city coat of arms worked in. Messrs. W. Bowers & Co. are the builders, and the architect is Mr. Cheers, of Twickenham.

HOMOEOPATHIC HOSPITAL, BIRMINGHAM.—This building was reopened on the 14th inst. The Birmingham and Midland Homoeopathic Hospital was established in 1875 at Broad-street-corner, when a Gothic building was erected upon part of the ground from designs by Mr. Yeoville Thomason. Building operations for the completion of the original scheme began about a year ago, in accordance with designs supplied by Messrs. Crouch & Butler. To the left of the main entrance is the Board-room, with its Old English fireplace, and beyond, there is the office set apart for the use of the Lady Superintendent. By staircase or lift, one ascends to the several floors above. The first of these is devoted to administrative purposes. Overhead is the men's ward, containing eight beds; whilst on the same level, in the older portion of the building, are women's wards, where there is accommodation for twelve patients. At the rear, in an apartment which was at one time used as an electro-plate showroom, a dozen children have been provided for. Accommodation now exists for fifty patients instead of thirty. On the top floor, with the operating-room, there are three private wards.

PUBLIC HALLS, SPRINGBURN, GLASGOW.—Springburn Public Halls were formally opened on the 16th inst. They are in Keppochhill-road, near to its junction with Springburn-road, and are capable of seating 1,200 and 400 persons respectively. Mr. W. Whitie was the architect.

TRAINING COLLEGE, LIMERICK.—A training college for girls has been erected in Limerick. The contract was placed in the hands of Mr. M. Glynn, Dublin, and Mr. Byrne, Dublin, was selected as architect, with Mr. P. Molloy, Limerick, clerk of works.

BUSINESS PREMISES, NEWCASTLE-ON-TYNE.—The premises being erected in Dean-street, designated "The Cathedral Buildings," are now approaching completion. The block has been built to the order of the churchwardens and overseers of St. Nicholas, and the seven stories contain eighty rooms, divided into ten suites of offices and six shops, with cellars beneath. There are two entrances, one from the churchyard and the other from Dean-street, and a mosaic-floored entrance hall divides the buildings. A passenger elevator will run from the lower hall to the highest story. Messrs. Oliver, Leeson, & Wood are the architects for the work, and Messrs. Stephen Easton & Co. the contractors, with Mr. Matthew Dods acting as clerk of works.

PROPOSED OPERA HOUSE, BLACKPOOL.—It is proposed to reconstruct Her Majesty's Opera House in connexion with the Winter Gardens, and to enlarge the building to double the capacity. Messrs. Mangnall & Littlewood, of Manchester, architects, have prepared the plans and drawings for the work. The whole of the Winter Gardens Church-street frontage from the present Opera House entrance to Adelphi-street will be taken in hand, and a new facade will be erected. The building will consist of two stories. The present entrance to the Winter Gardens will be embodied in the scheme, and remain in its present position. The existing entrance to the Opera House will form the entrance to the pit, and west of these entrances will be three shops. At the Adelphi-street corner is to be a square tower 100 ft. high, surmounted by an ornamental minaret. The entrance to the dress circle and upper circle will be under the tower at the westerly corner of the block in Church-street. This entrance hall will be almost as large as the present entrance hall of the Opera House. Staircases lead up to a foyer, which will be 120 ft. in length by 40 ft. in width. From the foyer is an entrance to the dress circle, 20 ft. wide, and an entrance to the upper circle of similar proportions. Ample cloakrooms, ladies' retiring-rooms, &c., are provided for. The useless room at the back of the present theatre is to be thrown into the body of the theatre. Increased accommodation will be given for 1,500 persons. The bars at the rear of the pit, the dress circle and the upper circle are to be cleared out, along with several stairways that can be dispensed with, and then there will be practically a reconstruction of the auditorium. Extra seating will be provided in the stalls. The pit will be carried further back and extra seating obtained. The circles will be entirely taken down and reconstructed. The dress circle, which now consists of only three rows of seats, will be increased to twelve rows. The upper circle, instead of having eight rows, will have fifteen. There will also be accommodation for 300 or 400 more in the gallery. The work will cost from 20,000l. to 30,000l.

STAINED GLASS AND DECORATION.

WINDOW, STANHOPE CHURCH, DURHAM.—On the 18th inst., the Lord Bishop of Richmond, Dr. Pulteney, unveiled and dedicated a three-light stained-glass window in the north aisle of Stanhope Church. In this work, the artists, Messrs. Wailles & Strang, of Newcastle, have dealt with the subjects of "Faith, Hope, and Charity." Faith and Hope are represented respectively by a cross and anchor. The centre light represents a female figure, with an infant in her arms, and at her feet two poorly-clad children—illustrating the spirit of Charity.

CHRIST CHURCH, OLD KENT-ROAD.—On Whit-Sunday a three-light window was unveiled in the nave of this church. The subject depicted is the "Lord's Supper," under canopies of fifteenth-century style. In the tracery above is an angel representing Charity, with cherubs on each side. The work was designed and executed by Messrs. Taylor & Clifton, of London.

FOREIGN.

FRANCE.—The monument to Comte, on the Place de la Sorbonne, was unveiled last Sunday. It consists of a marble bust on a column, on the left of which is seated a young labourer who meditates, with a hammer at his feet. M. Injalbert is the sculptor.—The Conseil Supérieur des Beaux-Arts will shortly have to elect a successor to M. Coquery, the late Professor of Architecture at the Ecole. The candidates for the post are MM. E. Beaud, Loviot, and P. André.—M. Beviere, architect, has obtained the first premium in the competition for the laying out of a public garden and the erection of a school and a Salle des Fêtes at Lilas. M. Durand obtained the second premium and M. Chesnay the third.—M. Eustache has presented to the Academie des Beaux-Arts his set of drawings

of the Via Sacra and the adjoining buildings, now on view at the Salon.—A new Society of engravers and amateurs has been formed at Paris, with the object of promoting the practice of wood engraving.—A new post office and telegraph building has been opened at Epône, of which M. Deschamps is the architect.—The death is announced, at the age of seventy-nine, of M. Camille Bernier, the landscape painter, who made his first appearance at the Salon in 1848, and has exhibited there regularly since. He was made an "officier" of the Legion of Honour in 1892. His special province lay in painting the landscape of Brittany; one of his best works of this class is in the Luxembourg Museum.—We have also to record the death at the same age (seventy-nine), of M. Jean Jules Salmon, the sculptor, a former pupil of Ramey and Tassaing. He received medals in the Salons of 1863 and 1865, as well as at the International Exhibitions of 1867 and 1889. Among his principal works are "The Judgment of Paris"; Phryne before the Areopagus; the statue of Henri IV, which decorates the Hôtel de Ville of Rochelle; four statues representing Folly, Comedy, Satire, and Music, for the Vaudeville Theatre; "La Gloire" for the new portion of the Louvre; and a statue of Handel for the Nouvel Opéra, which was illustrated in the *Builder* of September 17, 1887.

UNITED STATES.—The German Emperor has notified the President that it is his intention to present an equestrian statue of Frederick the Great to the people of the United States, as a memorial of the visit of Prince Henry of Prussia to that country. The statue is to be erected in Washington, probably in front of the War Department buildings.—A travelling studentship in architecture has been established in Harvard University, from donations provided by Mr. and Mrs. Nelson Robinson, of New York. Its value is 1,000 dols. per annum, and it is to be awarded annually to graduates of the School of Architecture who have completed their course with distinction, or who have completed with distinction a post-graduate course of not less than one year. The winner of the award is required to spend a year in the study of architecture in Europe.—Professor Trowbridge, of the college of architecture in Cornell University, has resigned his post, and intends to enter upon active practice as an architect in New York.—The plans for remodelling the White House, at Washington, by adding curved wings and other features, have been abandoned for the present, and some simple changes in the interior of the building only, are now contemplated. The President's business offices are to be removed to a new building to be erected south of the White House, near the State department buildings. The cost of these changes is estimated at 150,000 dols.

INDIA.—The Military Works Department is constructing an important transport road from Quetta to Chaman.—The work of erecting the new municipal offices, Calcutta, will probably be carried out by the Municipality on the piece-work system, which is largely adopted by the Public Works Department. The tenders sent in have thus apparently been ignored, and the incident has given rise to much discontent and adverse criticism amongst builders in that part of Bengal.—A scheme has been sanctioned for the erection of a large police-station in Municipal Office-street, Calcutta.—The Government has erected at Amritsar a memorial in the form of a kiosk to the memory of the men of the 36th Sikhs who fell in the recent operations in China.

MISCELLANEOUS.

SCULPTURE WORK, CARDIFF NEW TOWN HALL.—A special meeting of the Town Hall Committee of the Cardiff Corporation was held recently. The architects (Messrs. Lanchester, Stewart & Rickards) wrote upon the question of sculptural adornments on the new Town Hall. They sent plans showing in outline their proposals, and suggested that Mr. Goscombe John, A.R.A., should be retained in connexion with carrying out the details. Mr. Rickards (a member of the firm) attended and gave an explanation. The provision in the specification and contract was for 8,000l. in the Town Hall account, of which 6,500l. was for statuary, and in the Law Courts the total was 4,500l., of which 3,300l. was for statuary. Of the total of 12,500l., 1,300l. would be for bronze work, &c., including 800l. for the crown of the Town Hall dome. The committee agreed that the architects, with Mr. Goscombe John, should obtain competitive designs for the work on the Town Hall and the Law Courts.

HOUSING OF THE WORKING CLASSES.—The Joint Committee of the two Houses of Parliament on the Housing of the Working Classes heard further official evidence on the 14th inst. with reference to the working of the present standing orders of Parliament in relation to the rehousing of persons of the labouring class displaced by railway and other undertakings. Mr. W. P. Byrne, Principal Clerk of the Domestic Department of the Home Office, and Mr. H. T. Steward, Consulting Surveyor to the Home Office, were the witnesses. Mr. Byrne put in a statement showing the actual amount of rehousing accommodation to be provided under schemes approved since 1884, and promoted by railway and other companies. Roughly speaking, nearly 18,000 per-

sons had been displaced in the Metropolis and nearly 15,000 rehoused. In cross-examination, he explained that these figures did not at all represent the magnitude of the subject, because the operations of railway companies which diminish the accommodation of the working classes were probably slight in comparison with natural industrial changes, such as the building of factories. Mr. Steward stated that when a scheme was put before the Secretary of State he sent a duly qualified assistant round to every house which it was proposed to pull down, ascertaining the number of inhabitants, their occupations, wages, rent, and so on; then he reported to the Home Office, and the Secretary of State decided whether the company should be required to rehouse or not. Asked by the Chairman whether, when a rehousing scheme was carried out, the same people were accommodated as had been displaced, the witness said he was informed that as a rule very few of the same people were rehoused. In answer to Mr. Jesse Collings, Mr. Byrne acknowledged the satisfactory character of the co-operation which the Home Office had received from the County Council and the local authorities in the administration of the Act.

LABOUR CONDITIONS IN NEW YORK.—Some interesting particulars under this head are given in an official report just published, from which it appears that on September 30 last the number of labour organisations in New York State was 1,881, with a membership of 276,141, showing an increase, as compared with 1900, of 246 organisations and 30,760 members, of whom 14,618 were women. The largest groups of organised working men are those in the building trade, who represent about 31 per cent. of the trade unionists. During the year the relative amount of unemployed amongst members of labour organisations was smaller than in any recent years except 1899. The average earnings of organised working men in 1898 were 4 per cent. greater than in 1897; in 1899 they gained another 11 per cent.; in 1900 they lost 4 per cent.; while in 1901 they gained 5 per cent. so that at the latter date they were 16 per cent. higher than in 1897. On the other hand, it is estimated that the wholesale prices of meat, dairy, and garden products have during that period increased 26 per cent., and of breadstuffs 41 per cent. Admitting that retail prices may not have increased in quite the same proportion, it is still safe to say that the cost of living has increased since 1897 at least as much as the earnings of labour. During the last three years the average daily earnings of bricklayers and masons have been—in 1899, 16s. 2d. sterling; in 1900, 16s. sterling; in 1901, 17s. 4d. sterling; of carpenters—in 1899, 12s. 4d. sterling; in 1900, 12s. sterling; in 1901, 12s. 4d. sterling; of painters—in 1899, 12s. 10d. sterling; in 1900, 12s. sterling; in 1901, 12s. 5d. sterling; of plumbers—in 1899, 13s. 11d. sterling; in 1900, 14s. 8d. sterling; in 1901, 13s. 11d. sterling. As the outcome of the annual meeting of the Industrial Department of the National Civic Federation, held in New York in December last, an endeavour has been made to provide a committee which shall be able to prevent strikes and lock-outs, and to aid in renewing industrial relations when a rupture has occurred, and this not in relation to any particular trade, but as a means of maintaining harmony between capital and labour under all circumstances. The new feature in this committee is the importation of representatives of the general public equal in number to those of capital, on the one hand, and labour on the other. Much is expected from this innovation, as tending to lead to a better understanding by the general public of the true causes of any dispute that may arise and of the means suggested for its settlement, matters which are often obscure at the present time, and on which it is therefore difficult to bring any force of public opinion to bear. The committee is composed of twelve members representing employers of labour, twelve representing organised labour, and twelve representing the general public, all men of great influence. The Committee declares that it is prepared to do what may seem best to promote industrial peace, to be helpful in establishing rightful relations between employers and workers, by its good offices to endeavour to obviate and prevent strikes and lock-outs, and to aid in renewing industrial relations when a rupture has occurred; they advocate conferences and mutual agreements between employers and workers; and, while assuming no powers of arbitration unless such powers be conferred by both parties to a dispute, declare that when requested they will either as a whole or by a sub-committee act as a forum to adjust and decide upon questions at issue between workers and their employers, provided that in the opinion of the Committee the subject is one of sufficient importance.

PROGRESS OF BUILDING IN PROVIDENCE, RHODE ISLAND, U.S.A.—A report has been received at the Foreign Office from Mr. Stockwell, British Vice-Consul, in which it is stated that the building trades there have been very active throughout the past year. One thousand three hundred and two permits to build were issued, being 200 more than in the previous year. The total cost of new structures, houses, and mercantile buildings in 1901 was 4,739,730 dols., the total cost in the previous year having been 4,204,950 dols. The new structures numbered 765, of which 461 were dwelling-houses. "Money," observes the Vice-Consul, "has been so

plentiful and cheap that the man of moderate means may own, nominally, his home and pay interest instead of rent. During a part of last year skilled labour of the right kind was not sufficient to meet the demand. The painters struck for a day of eight hours, but were not successful. The eight hours' time-card has not yet been adopted anywhere in the State. The labour day remains at nine hours, occasionally longer, but never shorter. The following wages are paid:—Carpenters and painters, from 2 dols. 50 c. to 3 dols. per day; masons and plumbers, 3 dols. to 3 dols. 50 c."

DAY CONSUMPTION OF GAS (A CORRECTION).—We ought to explain that the figures quoted last week in our "Note" on this subject represent the increases in the consumption of gas on March 5, 1902, as compared with the consumption on March 5, 1901, and not the average increase for a year, as stated. This correction does not influence the noteworthy fact to which we desired to draw attention, viz.—that the volume of gas used during the hours of daylight is increasing at a more rapid rate than the volume consumed during the hours of darkness.

ETCHING OF WESTMINSTER ABBEY.—From the *Art Journal* Office we have an original etching by Mr. Axel Haig of the interior of Westminster Abbey, looking east. This is on a small scale, but a refined and artistic piece of etching, and we prefer it to some of Mr. Haig's larger and more highly worked plates, because it has more of the true quality and tone of etching, which are apt to be lost when an etching is laboriously finished up like an engraving.

GLASS WALL-TILES.—The "Glasgraphische Werke" (Frankfort-on-Maine), send us some specimens of their decorative wall-tiles made of glass. These are about 1/4-in. thick, and are made with decorative designs in colour similar to what can be done on encaustic tiles; and apparently the colouring is incorporated with the glass and does not yield to abrasion. The glassy smoothness of surface is, no doubt, as the manufacturers say, conducive to easy cleansing, but on the other hand that very smoothness and glitter of surface is in our opinion less agreeable from a decorative point of view than the less glassy but equally washable surface of encaustic tiles. There would be an economy in the use of these glass tiles, both in original price and in freight (in consequence of their lightness); on the other hand we should think they might be rather in danger of breakage in transit. We are informed that they have been largely used in Germany, and that 4,000 square yards of them have lately been supplied to the Hansa Commercial buildings at Düsseldorf, and in Frankfurt they are largely used in hotels and private houses. Mr. J. C. Duntze, of Frankfurt, is patentee and manager of the works.

INSTITUTE OF CLAY-WORKERS.—The annual dinner of the Institute of Clay-workers was held on May 14 at the Holborn Restaurant, where some seventy clay-workers, representing the brick, tile, and pottery industry in all parts of the country were present. Mr. Clement B. Broad occupied the chair. After the loyal toasts had been given, "The Architectural Profession" was proposed by Mr. W. E. Hughes, and replied to by Mr. Silvanus Trevail. "The Institute of Clay-workers" was proposed by Mr. Broad, and replied to by Mr. E. P. Collier, J.P. (who is the President for this year), and Mr. H. Greville Montgomery, hon. sec. The toast of "The Visitors" was proposed by Mr. Webster, and replied to by Mr. Ellis Marsland, Master of the Bricklayers' and Tilers' Company.—A party of clay-workers, numbering some fifty members, have started on an annual excursion, Paris being fixed upon this year. On the 16th inst. the members were to pay a visit to the National Porcelain Manufactory of Sevres, and during the visit they will be officially received by the Union Ceramique of France, and a banquet will be given in their honour.

PROPOSED EXCAVATIONS AT SHAFTESBURY ABBEY.—Lord Stalbridge presided on the 17th inst. at a meeting at Shaftesbury to consider excavations it is proposed to carry out at Shaftesbury Abbey. It was stated that in July, 1861, a partial excavation of the site was made by Mr. Batten, agent to the Marquis of Winchester. When the foundations of the choir and the apsidal chapels on either side, as well as those of the crypt, were brought to light, many objects of interest were found, including a gold hoop ring set with emeralds, a chalice, and a number of heraldic floor tiles and portions of sculptured monuments. A small portion of the Abbey, barely a quarter, was disclosed, and it is now proposed to carry out a thorough excavation of the whole site. The Corporation of Shaftesbury have contributed 50l. towards the cost of the work. The work will be carried out under the supervision of Mr. Doran Webb, F.S.A. and President of the Wilts Archaeological Society.—*Times*.

LEGAL.

FULHAM BOROUGH COUNCIL v. LONDON SCHOOL BOARD.

AT West London Police-court a few days ago before Mr. Rose, there was an adjourned summons against the London School Board for not complying with the regulation of the Fulham Borough Council by not removing the old drains in constructing a new system at the Everington-street School. Mr.

Courthope-Munroe supported the summons on behalf of the Borough Council, and Mr. George Elliott for the School Board. It was stated that 1,400 children attended the school, and it was necessary on sanitary grounds to remove the old drains and substitute dry earth and ballast to prevent contamination. Members of the London Sanitary Protection Association gave evidence stating that it would be a waste of money to spend 300l. in removing the old drains, which had been properly disconnected with the new system. All had been removed from inside the building, and those remaining were under the playground. It was argued that the regulation was invalid, as it was framed by the late Fulham Vestry. Mr. Rose expressed an opinion that the regulation was valid, and imposed a penalty of 40s., with 10 gs. costs. He said he would grant a special case if one was required. Subsequently formal notices were served for a special case.

DISTRICT SURVEYORS AND CORONATION PROCESSION STANDS.

THE case of *The Mayor, &c., of Westminster v. Watson and others*, came before a Divisional Court of King's Bench, composed of the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice Channell, on the 15th inst., it being a special case stated under Section 20 of the London Government Act, 1899, raising the question as to the powers, rights, and duties of district surveyors acting under the London Building Act, in respect of the inspection and supervision of wooden structures erected for the purpose of allowing persons to witness the Coronation procession.

It was decided in litigation between the Westminster City Council v. the London County Council (*vide the Builder of December 21, 1901*), that these structures were within the meaning of Section 84 of the London Building Act, and that by reason of the provisions of the London Government Act, 1899, the power to give licences in respect of them was transferred from the County Council to the Borough Councils. Before the passing of this Act the County Council made it a condition of the licence that the structures should be erected to the satisfaction of the district surveyors, and the practice of the Westminster City Council was to make it a condition of the licence that the structure should be erected to the satisfaction of their city engineer. The following questions arose between the Council and the surveyors:—(1) Whether the powers, duties, and liabilities of the surveyors with respect to the supervision or inspection of wooden structures falling within Section 84 of the London Building Act, 1894, had been transferred to the City Council and its officers; (2) whether wooden structures within that section were works of which the district surveyor should have notice under Section 145, and as to which he had duties of inspection and supervision independently of the terms of any licence; (3) whether the right to receive the fees for such supervision and inspection had been transferred to the City Council and its officers, or had lapsed, or was still retained by the district surveyors independently of the terms of the licence granted. On behalf of the Westminster City Council it was argued that the licence might contain such conditions as the Council might think expedient, and that Section 84 of the London Building Act stood by itself, and these structures were not within the rest of the Act. The district surveyors, the respondents, however, urged that they did not derive their authority from the County Council, though they were appointed by the Council, and that their powers and duties did not depend on the licence granted under Section 84 of the Act, but arose under other sections. They contended that the Westminster Council were not bound to insert any condition, and in the event of their not doing so, then if the argument on behalf of the Westminster City Council was right these structures would be put up without any supervision at all.

At the conclusion of the arguments of counsel, the Lord Chief Justice in giving judgment said that there were in the London Building Act provisions as to the duties of the district surveyors, who, though not exactly servants of the County Council, were under its jurisdiction. It could not be contended that it was intended to transfer to the officers of the new Councils the duties of the district surveyors; but the transfer of the powers of the County Council might, by its operation, destroy some of those duties. What the Court, therefore, had to consider was the true view of the law having regard to the position of the County Council and of the district surveyors and what was intended to be transferred. The City Council could specify the conditions of the licence and could add any safeguard that they thought fit. If any duties were imposed on anybody by the licence, they were not imposed on the district surveyors. The transfer to the Borough Councils did not destroy any of the rights or duties of the district surveyors except in so far as the transfer involved their alteration or destruction. His Lordship answered the three questions raised by the special case as follows:—1. In so far as the duties depended on the terms of the licence, it was not a question of transfer. It was a question of duties imposed on the officers of the City Council by the terms of the licence. Therefore the district surveyors did not have the right

or power of performing the duties imposed by the licence unless the licence expressly imposed duties on them. The answer to the question was that they were not transferred, and the district surveyors had no powers, duties, or liabilities under the licences which were granted by the City Council. 2. He thought that the district surveyors were entitled to have notice under Section 145 of the London Building Act, 1894, but not of all the things specified in that section, because they were not all applicable. He did not suggest that the district surveyors could exercise functions which had no relation to the character of the structure being erected. 3. The right to receive the fees clearly had not been transferred to the City Council and its officers, but he did not think that the right had altogether lapsed. It would be reasonable and proper for the County Council to exercise their powers of allowing a less fee, because the duties would be less. If in a proper case a district surveyor had a duty to inspect in order to see whether any provision of the Act had been infringed, he would be entitled to his fees, but he did not suggest that the district surveyors would be entitled to claim fees in respect of every one of these structures because they had certain duties under the Act.

Mr. Justice Darling and Mr. Justice Channell concurred.

Mr. Manisty, K.C., and Mr. Craies appeared for the Westminster City Council; and Mr. Macmorran, K.C., Mr. Walter Ryde, and Mr. E. Hilliard for the district surveyors.

A BRIGHTON BUILDING DISPUTE:

APPLICATION TO THE COURT OF APPEAL.

THE case of *W. Belcher v. the Roedean School Site and Buildings, Ltd.*, and in re an Arbitration between the same parties came before the Court of Appeal composed of Lords Justices Vaughan Williams, Romer, and Mathew on the 15th inst.

Mr. George Bonner said that both of these cases were before Mr. Justice Bucknill in chambers the previous Monday, and in which notices of appeal had been given for the 16th inst. His application now was that the appeals might stand over until after the Whitsuntide vacation, as both sides were anxious to brief leaders and it would be impossible to do so in the time then at the disposal of the parties.

Lord Justice Vaughan Williams asked the learned counsel the nature of the applications in chambers.

Mr. Bonner replied that in the first case it was an appeal to the judge against the decision of the Master refusing leave to enforce an award of the arbitrator. The other case had relation to the dismissal of an appeal by the defendants against a decision of the Master refusing to order the proceedings to be stayed. The action had relation to a building contract. (The case had been before this Court on a previous occasion on the appeal of the defendant company and Mr. J. W. Simpson, an architect, from orders of Mr. Justice Lawrence in chambers, dated August 8, 1901. *Vide the Builder of November 9, 1901.*)

Lord Justice Vaughan Williams said he knew that just before the Whitsuntide vacation it was very difficult to get leaders, but he thought that there had been ample time to have done so had the parties chosen.

Mr. Bonner replied that one side wanted to brief Mr. Reginald Bray, K.C., and the other Mr. Ralph Neville, K.C. When he told their Lordships that the case had taken two hours before the Master in chambers they would understand that the matter was not an easy one, and it was thought to be of such importance that a shorthand note was taken of the proceedings in chambers.

Lord Justice Vaughan Williams said he granted the application, though very reluctantly. He might say that he should not be a member of this Court during next term, but he hoped that the case would not take the time which the parties apparently anticipated it would take.

BUILDERS AND SUB-CONTRACTORS:

IMPORTANT JUDGMENT OF THE HOUSE OF LORDS ON THE WORKMEN'S COMPENSATION ACT, 1897.

IN the House of Lords, composed of the Lord Chancellor and Lords Shand, Davey, Brampton, and Robertson, on the 16th inst., a considered judgment was given in the case of *Cooper & Crane v. Wright*, raising an important point under the Workmen's Compensation Act, 1897. The case came before the House on the appeal of Messrs. Cooper & Crane, builders, from a decision of the Court of Appeal composed of the late Master of the Rolls (then Lord Justice A. L. Smith) Collins and Romer, reversing a decision of the learned County Court Judge of Nottingham (*vide the Builder of March 10, 1900*). The short facts were these:—The appellants had contracted to erect a building, and contracted with the respondent Wright to do all the slating work. A labourer named Brady, employed by Wright, was killed by an accident, and compensation under the Act was awarded to his widow against Cooper & Crane, who claimed to be indemnified by Wright. The County Court Judge allowed this claim and gave judgment for Cooper & Crane against Wright, but his decision was reversed by

the Court of Appeal, the Judges there unanimously holding that Cooper & Crane were not entitled to indemnity from Wright. Hence the present appeal of Cooper & Crane.

Lord Robertson agreed with the following judgment of Lord Brampton, that the decision of the Court of Appeal should be affirmed and the present appeal dismissed.

Lord Brampton, in the course of an elaborate judgment, after stating the facts, said that no appeal was made by Cooper and Crane against the award for compensation. Against the order for indemnity Wright appealed, and the Court of Appeal set it aside upon the ground that a mere sub-contractor was not an "undertaker" within the meaning of the Act. His lordship considered that that decision was right. The first section of the Act was as follows:—"If in any employment to which this Act applies personal injury by accident arising out of and in the course of the employment is caused to a workman, his employer shall, subject as hereinafter mentioned, be liable to pay compensation in accordance with the first schedule to this Act." The 7th Section (1) enacts "This Act shall apply only to employment by the undertaker as hereinafter defined, on, in, or about a railway, factory, mine, quarry, or engineering work, and to employment by the undertakers as hereinafter defined on, in, or about any building which exceeds 30 ft. in height, and is either being constructed or repaired by means of a scaffolding or being demolished." Section 7 (2) defines the meaning of the term "undertakers" in the cases of a railway, factory, quarry, laundry, or mine, to be those who represent the persons or bodies actually carrying on business or work so described. "In the case of a building the word 'undertakers' is declared to mean 'the persons undertaking the construction, repair, or demolition.'" The first section imposing upon "his employer" the liability to pay compensation to a workman must be read by the light of Section 7 (1), which enacts, "this Act shall apply only to employment by the undertakers" as defined. It followed that the general words "his employer" in Section 1 must be read as "his employer, being also the undertaker." In this case the deceased man having been employed by Wright, the sub-contractor, and not by Cooper & Crane, the undertakers, his employment, although on the work undertaken by Cooper & Crane, was not, in his lordship's opinion, an employment to which alone the Act applied. It was obvious that the legislature did not intend that such a workman, who had been exposed to equal risks and dangers with his fellow-workmen should be excluded from the benefit of the Act; this was apparent from Section 4, which in substance provided that the undertakers of works of construction of or on buildings should be responsible for compensation to injured workmen employed by their sub-contractors as if they had been employed by the undertakers themselves. It would be convenient to set out Section 4 in full:—"Where in an employment to which this Act applies the undertakers, as hereinafter defined, contract with any person for the execution by or under such contractor of any work, and the undertakers would, if such work were executed by workmen immediately employed by them, be liable to pay compensation under this Act to those workmen in respect of any accident arising out of and in the course of their employment, the undertakers shall be liable to pay to any workman employed in the execution of the work any compensation which is payable to the workman (whether under this Act or in respect of personal negligence or wilful act independently of this Act) by such contractor, or would be so payable if such contractor were an employer to whom this Act applies. Provided that the undertaker shall be entitled to be indemnified by any other person who would have been liable independently of this section. This section shall not apply to any contract with any person for the execution by or under such contract of any work which is merely auxiliary or incidental to and is no part of or process in the trade or business carried on by such undertakers respectively." That the widow was entitled to compensation from Cooper & Crane, as the undertakers, seemed to his lordship to admit of no possible doubt. The judge was right therefore in his award of compensation against them. That award was not questioned. The real question before their lordships arose out of the claim of Cooper & Crane for indemnity from their sub-contractor Wright. The case in support of that claim was thus put. That by his sub-contract with Cooper & Crane, Wright became an "undertaker" equally with themselves within the meaning of the 7th Section, and was in every respect under the same primary obligation to pay compensation to the widow; and that such liability was a liability imposed by Sections 1 and 7 independently of the 4th Section, so as to bring him within the proviso in that section, and to give them a right to claim indemnity from him. He did not think that these propositions could be maintained. First, Wright was not an undertaker within the meaning of Section 7 of the Act. The Legislature, in using the expression "the undertakers" had given it a limited statutory meaning beyond which it could not be extended. To bring any person within the definition clause he must have undertaken some definite, specific work of construction which was to form the

subject of his undertaking. In this case it was for the construction of an entire building. Secondly, the contract of the undertaker must be with a person who has authority to employ and to authorise the undertaker to accomplish the work undertaken. For such a work as the construction of an entire building, as was the case before their lordships, it seemed to him that two persons or sets of persons only could fill the position of "the undertakers" defined by the Act. The building owner who took upon himself the construction of the building he required, or the persons who, through the medium of a contract with him, engaged to take upon themselves the obligation to execute that work for him. He carefully abstained from expressing any opinion touching the responsibility of a building-owner who sub-divided the construction of a building among several contractors, because in this case, Cooper & Crane, by their contract with him, undertook the construction from the foundations to the top of the roof. By that contract they constituted themselves "the undertakers" of the whole building within the definition in Section 7. (2) From that contract they could not recede or be discharged unless with the assent of the building owner until the building was completely constructed; and to the execution of their undertaking they were bound to bring their personal skill and experience, and to exercise personal control over all the necessary operations. There was beyond this an obligation attached by the Statute to their undertaking, towards every workman employed by them on that work undertaken, to pay to him, in the event of injury to him by accident, compensation, according to the Act. Neither the contractual obligations to the building owner nor the statutory obligation to the workman could be terminated or altered at the mere will or by any act of the undertakers. They could not assign their contract or any part of it, nor could they delegate their authority or any part of it to another. The building owner had no contractual relations with the sub-contractor, and could only look upon him as a mere employee of those with whom he has himself contracted. These considerations had satisfied him that the Act by no reasonable interpretation could be held to make a mere sub-contractor an undertaker within the meaning of the Act. He therefore thought that the appeal should fail.

Lord Davey was of a different opinion. Three conditions were necessary under Section 1 of the Act to give the workman a right to compensation:—(1) That the employment shall be one to which the Act applies; (2) that the injury has been caused by an accident arising in the course of the employment; (3) that the workman shall be in the employment of the person from whom he claims compensation. Section 7, sub-Section 1, defined the employments to which the Act applied, and a fourth condition was added to those which he had mentioned—viz., that the employer must be the "undertaker" as defined in Section 7 (2). In that sub-section he found that in the case of a building "undertakers" meant the persons undertaking the "construction, repair, or demolition." In other words, the undertakers are the persons who undertake. He took the liberty to say that this was not a definition, but a mere verbal or grammatical synonym, and it afforded but little assistance in construing the Act. It seemed to come to nothing more than this—that the word "undertakers" in the case of a building was used in its ordinary sense, whatever that might be. Nor could he find anything in the definition which required the undertaking or engagement to be directly with the building owner, or excluded a sub-contractor to whom the contractor for the whole building had let a certain portion of the work. Such a person undertook the work he was engaged to do as literally and truly as if his contract was directly with the building owner. Confining himself, therefore, to the definition, and independently of the fourth section, he was of opinion that in the case of a building a sub-contractor might be an undertaker within the meaning of the Act, and consequently a workman employed by him who had been injured by an accident in the course of his employment, would be entitled to claim compensation from him. It might be that the so-called definition was so general as to include two persons, each of whom from a different aspect might be the undertaker. Turning to Section 4, his Lordship said that he regarded that section as a proviso on Section 1; it provided that in a certain case the workman might have a right to compensation from one who was not his employer. It was thereby enacted (in substance) that where "the undertakers as hereinafter defined"—viz., persons who had undertaken in whole or in part the construction of any building—contract with another for the execution of any work, the undertakers should be liable to pay compensation to a workman employed by the contractor. The words describing the compensation which the undertakers were to pay to the workmen were these:—"Any compensation which is payable to the workman (whether under this Act or in respect of personal negligence or wilful act independently of this Act) by such contractor, or would be so payable if such contractor were an employer to whom this Act applies." Two cases were, therefore, contemplated:—(1) Where compensation was payable under the Act by the contractor, viz., the sub-contractor; and (2) where it would be

payable if he were an employer to whom the Act applied. In other words, the language of the section expressly provided for a case in which both the so-called undertakers and the sub-contractor were severally liable under the Act to pay compensation to the workman for the same injury. The section appeared to give an additional remedy to the workman, and not to restrict his right under Section 1. It might be difficult in the case of a building to suggest cases in which a sub-contractor might or might not be an employer to whom the Act applied. It would seem that a sub-contractor who had undertaken part of the work must be one or the other in all cases alike. He now turned to the proviso on which the question before their Lordships turned:—"Provided that the undertakers shall be entitled to be indemnified by any other person who would have been liable independently of this section." The meaning of that proviso was plain. Omit Section 4, and ask yourself was any other person liable. He had already expressed the opinion that, excluding Section 4 from consideration, a person who had contracted by way of sub-contract to execute work on a building would be liable, and he had pointed out that the language of the section itself contemplated that very case. He thought that the appeal should be allowed, with the usual consequences.

Lord Shand gave judgment to the same effect. The Lord Chancellor also thought that the appeal should be allowed, and the judgment of the Court of Appeal reversed. If, as the Court of Appeal seemed to have held, an undertaker does include a person who sub-contracts for a substantial part of a building, then he did not understand why in this case Wright was not an undertaker by any of the ordinary particulars by which an undertaker could be described. Wright was certainly an undertaker. He undertook a substantial part of the work—namely, the roof—and he had the control and management of that part of the work. He employed Brady as a labourer in that form of employment, and he did not understand why it was suggested that he was not an undertaker, unless it was suggested that in order to be an undertaker he must take upon himself the entire contract that had been made by another person. It seemed to his Lordship that that would be an unreasonable construction of the Statute, which in its language was sufficiently clear. Whether the enactment was felicitously worded or not, when one looked at the section and the proviso together, he thought it could hardly be doubted that the meaning of it was that where part of the work was let out, although the builder of the entire structure should in the first instance be liable for injury to the workmen employed by the sub-contractor, nevertheless, he was not the actual employer, the builders who were thus made liable for injuries to a workman not employed by them should have a right of indemnity against the actual employer, between whom and themselves there was no relation except that of contractors. In these circumstances he thought that the judgment of the Court of Appeal was wrong, and he moved that it be reversed.

The appeal was accordingly allowed by a majority of three of the law peers against two.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

1,180.—A SCREW UNION FOR PIPES: S. W. Wells.—For the coupling together of four pairs of metal pipes whereof the given diameters are different, the inventor provides a screwed union which is screwed both without and within at each of its ends.

1,187.—BUTT AND FLANGE JOINTS: A. Eadie and F. Tannahill.—Two flanged rings are drawn together with bolts, and are so adapted that they can be screwed on to collars, a plain engaging surface being thereby afforded in order that the tube or pipe shall fit spigot-wise into the faucet formed by the projecting flange of one of the rings.

1,190.—IMPROVEMENTS IN VICES: O. Gopffarth.—The vice consists of various parts that are forged and can be easily renewed. The flanged base of the fixed jaw fits into grooves cut in the side-plates, which are pierced for the fixing-bolts, and between them is a block that keeps them asunder; the parts thus named are secured together with rivets or bolts. The movable jaw carries a slide that slides upon the block between the side-plates, and a projection from the block holds the nut for the adjustment screw. Steel plates which are dovetailed on to the jaws, and are retained in their positions with screws, constitute the jaw-faces.

1,203.—DOMESTIC WATER-SUPPLY: S. M. Rutnagar.—For the delivery of regulated quantities of water and prevention of waste from, for instance, a continuous supply system or cistern, the inventor causes the water to flow in two streams through a closed container; one stream, having its own outlet, serves for a control stream, and as it collects in the vessel will gradually lift a float until a lug overbalances a weight upon the spindle of the supply-valve and thereupon shuts the valve, whilst at the same time it works a lever in communication with a discharge-valve. In another adaptation a pipe is inserted into the container, and has an outlet of small area so as to check the outflow of water. By way of an improvement of No. 13,796 of 1900, an adjustable stop which works through a fixed nut or

carrier is substituted for the fixed stop which adjusts the position of the tippler; the stop is so set that the weight of the controlling water will not suffice to throw over the tippler or weight, or it can be set so that the position of the centre of gravity is on the other side of the centre, and will not allow the tippler to remain in the opened position after the operating handle has been liberated.

1,251.—MEANS OF SUPPORTING THE SIDES OF TRENCHES, CUTTINGS, &c.: C. Walton.—For affording a support for temporary purposes is devised an adjustable screw-jack that may be used together with a timber strut. The screw-jack is tube-shaped, and has a flanged nut which can be easily detached or repaired. The screw, which is capstan-headed, is secured to the one foot of the jack by means of a ball-and-socket joint, the other foot being arranged upon a pin or upon a universal joint.

1,258.—AN APPLIANCE FOR CHIMNEY-TOPS: F. Cochran.—The cowl is fashioned as a bowl, and is secured to a spindle. A pivot-cone inside a tube at the middle point of a bridge, and an arch which is provided with an oil-well, carry the cowl above the mouthpiece of the chimney-top.

1,272-3.—MEANS FOR WARMING BUILDINGS: F. N. Russell.—For steam or vapour circulating systems it is contrived that one can, at the starting or at any time, remove air from the circulating-pipes and radiators without wasting the steam or vapour. Valves are so arranged that when the vapour or steam inlet is closed the air-line connexion shall be open, and the steam or vapour valve shall be opened when the air-line connexion is shut to the degree desired with a stem which serves as a piston-valve for the air-line. It is claimed that the system can be heated rapidly without waste of steam into the air-lines, and without escape of the confined air into the apartment, by a suitable arrangement of the valves in the main pipes and near the radiators.

1,273.—In the case of similar systems working above, below, or evenly with atmospheric pressure, and in which is maintained a partial vacuum in the air-line services from the mains and pipes or radiators, are devised valves for closing of the air outlet as far as may be necessary for obviating waste of the steam or vapour before one can open the steam inlet, by which means the system can be worked with temperatures and pressures of various degrees, and lower than that in the source of supply, the heating vapour not being wasted. The stem of the steam or vapour valve serves as a piston valve for the air-line. In another shape an equivalent valve, or two ordinary valves worked either together or separately, are substituted for the combination valve.

1,288.—WATER-WASTE PREVENTION APPLIANCE: F. Beresford.—A stem that is passed through a spring stuffing-box and is affixed to a cone-shaped striking-head carries a valve between the inlet and the outlet; between a piston and the end of the cylinder is placed a spring, the piston being fitted upon the inner end of the valve-stem; the piston also has an annular groove and holes which are to be closed with a disc-valve which a spring forces downwards. When the closet-seat is either raised or depressed a plate presses the conical striking-head inwards and the valve becomes opened, so that water will flow from behind the piston through the holes in the piston; thereupon the valve is shut slowly by the leakage of water around the piston into the space behind it again. For the striking-head here cited confer No. 12,307 of 1900.

1,300.—PIPE-COUPPLINGS: H. E. Mally and H. Ratcliffe.—Water, steam, compressed air, and gas pipes, mains, &c., under pressure, can be joined or repaired by the provision of a stuffing-box which is made up in sectional parts to be put around the joint or the broken portion of the pipe. An annular division, having a tap, is made by bolting to one another the flanges of two of the sections. The two halves of each gland overlap at the joints, which are slotted to take the bolts that are hinged on to the two sections which, otherwise, are themselves hinged together, and are kept in their places with a wedge.

1,327.—A DRAIN-TESTING CONTRIVANCE: A. F. Collins.—To the end of a metallic pipe is secured the small or smoke producing appliance around which is disposed a paper or similarly flexible tube. The flexible ending of the remoter pipe is joined to the metallic pipe with a ring. For forcing air through the tester are used bellows after the "concertina" kind.

1,356.—CONSTRUCTION OF ROADS AND PAVEMENTS: A. Selby.—The object of the invention is to obviate damage that may arise from expansion or contraction, due to heat or other cause, which sets up movement sideways in the paving. Insertion-pieces, formed of compressible metal or wooden, plastic, or other substances, are fashioned as either tapered or channelled blocks. Some non-hardening compressible material is filled into their cavities, and they are covered during that process with a thin strip of insertion. The blocks are variously shaped; a curved block, or two inclined blocks, may be laid between two flat grooved blocks, a compressible metallic insertion-piece will key with blocks having corresponding projections, and the compressible material can be forced into subsidiary recesses in the blocks.

1,363.—WATER-CURRENT MOTORS AND WHEELS: y. T. Mook.—The outer ends of vanes are hinged on to arms mounted upon a vertical spindle so as to be closed by the current or stream, whilst they are controlled with chains so that they cannot be opened to more than 90 deg. as they oppose the stream or current, the direction of rotation remaining constant through ebb and flow. The wheel is made of superimposed sections whereof the upper sections are thrown into and out of gear, with the rise and fall of the tide, by means of ratchet gear. Spaced strips, shaped as troughs, may be substituted for the flattened vanes.

1,382.—FASTENINGS AND JOINTS FOR PIPES, MAINS, COCKS, TANKS, &c.: F. Albrecht.—A coupling-piece which consists of two pin-jointed parts is screwed at its one end and has a collar and feet, turned in opposite directions, at the other end, between which it is held. On the collar are flats which correspond with flats upon the washer, which is held down with either a coupling-connerion or a locking nut. For tin drums or similar holders the coupling-pieces are grooved.

1,387.—A SUBSTITUTE FOR HARD RESIN: A. Kronstein.—For use in making varnishes, japans, insulating compositions, &c., a heated solution is made of Chinese wood oil and dammar, copal, amber, or asphaltum, to which a drying oil may be added. When the heating is stopped before the compound has become solid a soluble and highly consistent product is obtained, but when the temperature is increased to 300 deg. C. an oil will be obtained. Confer also No. 17,378 of 1900.

1,397-8.—SIPHONICAL DISCHARGE, TIPPING-TANKS, &c.: W. H. Thompson.—At one end of the float lever of the supply cock is attached a hollow receiver having a small opening at the base; at the other end is a weight connected to a valve which controls the inlet into a box into which the shorter leg of the siphon is introduced. An automatic and intermittent action is brought about through the inlet cock and the valve being shut during the process of filling until the water flows over into the receiver and by overbalancing it opens both valves and starts the siphon. 1,398.—The service-pipe constitutes a journal for the tipping-tank within its casing; the float of the supply cock is hinged on to the tank, and, under normal conditions, lies in the forked end of a pivoted and balanced lever which works the stem of the valve. When the tank is filled the balance weight of the lever keeps the valve shut; when the tank is emptied the inlet valve is kept open by the weight of the float; thus, when the tank is tilted the supply cock remains shut as the float is lifted up with the tank.

1,479.—MANUFACTURE OF SLAKED LIME AND SANDSTONE: D. Wachtel & Co.—For making a completely slaked lime, and especially with a view to its being mixed with sand for an artificial sandstone the inventors mix, in a pug-mill, lime slaked into a paste with dry calcium hydrate so as to produce a plastic mass to be afterwards mixed with sand; the compound of dry and pasty lime is put into closed iron cases, which are then exposed in a chamber to the steam under high pressure, which completes the hydration by its heat alone, the hydrate being formed by the water held in the lime.

1,559.—SUPPLY AND DISCHARGE VALVES FOR DOMESTIC WATER SERVICE: J. Denton.—The flow of a starting-discharge into the longer leg of the siphon is regulated with a valve carried upon the lower end of a rod so as to press against a flange that is screwed into an extension on the side of a junction-piece which sustains the siphon and is bolted on to the cistern. Either a weight upon a rocking-lever, or a spring upon the rod, keeps the valve, normally, upon its seating. To the bottom of the cistern is bolted a similarly-constructed supply-valve, and a float, which is attached by a rod to its arm, shuts and closes the supply-valve, of which the tail-piece is provided with a guide on the cap.

1,588.—A SURFACE-WATER CONDUIT OR PIPE: J. W. Thompson.—A shallow channel, which is pierced and is grooved crosswise, that the water may flow into the drains, is fashioned along the top of each pipe-length. In another adaptation a separate block is let into the top of the drain, and is similarly perforated, and a receiver for grit, &c., is made underneath.

MEETINGS.

FRIDAY, MAY 23.

Surveyors' Institution.—Country meeting, Cambridge. Excursions.

SATURDAY, MAY 24.

Architectural Association.—First summer visit, to the new School Buildings, Christ's Hospital, Horsham. St. Paul's Ecclesiological Society.—Visit to the Church of Denham. Train to Uxbridge from Paddington at 2.30 p.m.

MONDAY, MAY 26.

Royal Institute of British Architects.—Mr. T. H. Mason on "The Plan of the House in Relation to the Garden," 8 p.m.

TUESDAY, MAY 27.

Society of Arts (Applied Art Section).—Miss May Morris on "Pageantry and the Masque," illustrated by lantern pictures. 8 p.m.

THURSDAY, MAY 29.

Society for the Encouragement of the Fine Arts.—Miss Ethel Halsey on "Kimi under the Malastas," with lantern illustrations. 8 p.m.

Royal Institution.—Mr. M. H. Spielmann on "Contemporary British Sculpture." 11. 3 p.m. Institution of Electrical Engineers (Dublin Section).—(1) Mr. Marshall Osborne on "The Lighting and Driving of Textile Mills by Electricity." (2) Annual general meeting. 8 p.m.

Edinburgh Architectural Association.—Visit to Stirling.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

May 6.—By Wm. Rolfe (at Masons' Hall Tavern).

City of London.—Aldersgate-st., The Clarence p. h., f., p., with goodwill £19,320 By RENDALL & SYMONS (at Totnes). Rattery, Devon.—Torn Farm, 100 a. 2 r. 22 p., f. 3,150 May 7.—By Messrs. KEMSLEY (at Romford). Upminster Common, Essex.—Tyes Farm, 10 a. 0 r. 4 p., f. 680 Podes Farm, 8 a. 3 r. 6 p., c. 500 Beacon Farm, 11 a. 3 r. 23 p., c. 500 Three cottages and 1 a. 0 r. 24 p., f., y.r. 22l. 6s. 450 A copyhold enclosure, 2 a. 2 r. 19 p. 800 Chadwell Heath, Essex.—Whalebone-lane, Fair View and West View, f., y.r. 48l. 670 1 and 2, Grosvenor-villas, f., y.r. 48l. 670 1 and 2, Belgrove-villas, f., e.r. 52l. 740 May 9.—By WYATT & SON (at Bognor). Felpham, Sussex.—Rose Tree-cottages (two), f., w.r. 20l. 15s. 300 Alpha-cottages (four), f., w.r. 29l. 520 North Bersted, Sussex.—Chalcraft Field, 7 a. 0 r. 23 p., c. 340 South Bersted, Sussex.—Three freehold cottages, w.r. 22l. 2s. 420 May 12.—By CHANCELOR & SONS. Staines, Middx.—Richmond-rd., a freehold building site, with ornamental lake, area 1 a. 2 r. 19 p., c. 600

By MAPLE & CO. Gravesend, Kent.—1 to 4, British Tar cottages, f., w.r. 41l. 12s. 210 Bentley-st., Library Cottage, f., w.r. 20l. 16s. 100 24 and 3 to 8, Bentley-st., l., w.r. 93l. 12s. 510 41 to 45, 44A and 45A, Bentley-st., f., w.r. 84l. 10s. 450 37 to 40, Bentley-st., and 1 to 4, Library-pl., f., w.r. 81l. 18s. 380 1 to 4, Roberts-pl., f., w.r. 36l. 8s. 140 2 to 5, Milton-pl., f., y.r. 113l. 8s. 1,200 16, 22, 29, and 31, Milton-rd. (S), f., y.r. 140l. 2,200

By FRANK NEWMAN. Peckham.—Vivian-rd., l.g. rents 54l. 10s., reversion in 64 1/2 yrs. 1,423 Philip-rd., l.g. rents 12l., reversion in 6 1/2 yrs. 470 Manaton-rd., l.g. rents 47l. 18., reversion in 6 1/2 yrs. 1,893 Claude-rd., l.g. rents 14l. 8s., reversion in 6 1/2 yrs. 390 Wivenhoe-rd., l.g. rents 71l. 6s., reversion in 6 1/2 yrs. 1,990

By PROTHMER & MORRIS. Stratford.—5 to 17 (odd), Cruikshank-rd., u.t. 70 yrs., g.r. 24l., w.r. 154l. 12s. 1,000 By ALFRED SAVILL & SON. Ilford, Essex.—Cranbrook-rd., The Highlands Building Estate, 17 a. 1 r. 20 p., f. 11,000 Chigwell, Essex.—Manor-rd., a block of freehold building land, 39 a. 0 r. 24 p. 5,000

By GEORGE STOCKINGS. Paddington.—12, Marylands-rd., u.t. 61 yrs., g.r. 10l., y.r. 55l. 520 Dulwich.—321 and 323, Crystal Palace-rd., f., y.r. 54l. 860 By WOODS & SKELLING. Hampton Wick, Middx.—Glamorgan-rd., Mervyn, u.t. 76 1/2 yrs., g.r. 12l., y.r. 45l. 465 Sidcup, Kent.—2, Norfolk-pl. (S), u.t. 57 yrs., g.r. 5l., y.r. 60l. 4, 5, 6, and 7, High-st. (S), u.t. 56 yrs., g.r. 24l., y.r. 245l. 3,820 Nelson-pl., a plot of building land, u.t. 56 yrs., g.r. nil. 200 Clarence-rd., Bowden Villa, u.t. 74 1/2 yrs., g.r. 4l., w.r. 316 4s. 335

By CROPPER, STEWARD, & CATTELL (at Rugby). Lilbourne, Northants.—Freehold farmhouse and 59 a. 2 r. 24 p. 2,050 Freehold house and meadow, 3 a. 3 r. 28 p. 160 May 13.—By DAVID BURNETT & CO. Stamford Hill.—Amhurst Pl., Aberglaslyn, u.t. 73 yrs., g.r. 25l., p. 3,000 Fulham.—137, Fulham-rd., u.t. 14 yrs., g.r. nil, y.r. 110l. 700 Chertsey, Surrey.—Bedford Lodge, f. p. 500

By HAMPTON & SONS. Wakes Colne, Essex.—Wakes Colne Pl. and 3 acres, f., p. 2,850 By MAPLE & CO. Regent's Park.—62a, York-ter. (S), u.t. 19 yrs., g.r. 13l., e.r. 130l. 600 Hampstead-road.—31, Oakley-sq., u.t. 51 yrs., g.r. 23l., e.r. 75l. 575 Canning Town.—Bidder-st., &c., l.g.r. 30l., reversion in 73 yrs. 630 Limehouse.—St. Anne's-row, f.g.r. 22l., reversion in 73 yrs. 460 Twickenham.—Gravel-rd., freehold rent of 6l. 4s., reversion in 57 yrs. 125 Kensington.—Pitt-st., l.g.r. 16l., u.t. 41 yrs., g.r. 5s. 80 Silvertown.—Cranbrook-rd., f.g.r.'s 21l., reversion in 76 1/2 yrs. 385 Barnwood-rd., f.g.r. 21l., reversion in 76 1/2 yrs. 415 Pinlisco.—1, Bessborough-st., u.t. 28 yrs., g.r. 20l., y.r. 20l. 700 24, Bessborough-pl. (stabling), u.t. 28 yrs., g.r. 10l., y.r. 50l. 400 South Kensington.—16, Earl's Court-gdns., f., y.r. 70l. 1,950 20, Earl's Court-gdns., f., y.r. 55l.; also f.g.r. 5l., reversion in 49 yrs. 1,300 Chelsea.—14, Hans-pl., beneficial lease for 5 1/2 yrs., r. 20l. 1,080

By Messrs. RUTTER. Warbleton, Sussex.—Craiglockhart Estate, 165 a. 0 r. 34 p., f. £2,050 Stoneland Farm, 36 a., f., y.r. 50l. 1,000 By DEBENHAM, TEWSON, & CO. Ilford.—2 to 24 (even), Thorold-rd., f., y.r. 300l. 4,695

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; w.r. for weekly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard.

PRICES CURRENT OF MATERIALS.

. Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

Table with columns for material types (Hard Stocks, Rough Stocks, Grizzlies, Facing Stocks, Shippers, Flettons, Red Wire Cuts, Best Fareham Red, Best Red Pressed, Ruabon Facing, Best Blue Pressed, Staffordshire, Do., Bullnose, Best Stourbridge, Fire Bricks) and prices in £ s. d. and per 1,000.

Table for GLAZED BRICKS with columns for types (Best White and Ivory Glazed, Stretchers, Headers, Quoins, Bullnose, and Flats, Double Stretchers, Double Headers, One Side and two Ends, Two Sides and one End, Splays, Chamfered, Squints, Best Dipped Salt Glazed Stretchers and Headers, Quoins, Bullnose, and Flats, Double Stretchers, Double Headers, One Side and two Ends, Two Sides and one End, Splays, Chamfered, Squints, Seconds Quality White and Dipped, Salt Glazed, Thames and Pit Sand, Thames Ballast, Best Portland Cement, Best Ground Blue Lias Lime) and prices.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. Grey Stone Lime... 10s. 6d. per yard, delivered. Stourbridge Fire-clay in sacks, 26s. 6d. per ton at rly. dpt.

STONE.

Table with columns for stone types (Ancaster in blocks, Bath, Farleigh Down Bath, Beer in blocks, Grinshill, Brown Portland in blocks, Darley Dale in blocks, Red Corshill, Closeburn Red Freestone, Red Mansfield, Hard York in blocks, Hard York 6 in. sawn both sides) and prices in £ s. d.

Table for slates with columns for sizes (6 in. Rubbed Ditto, 3 in. sawn both sides, 9 in. self-faced Ditto, Hopton Wood (Hard Bed) in blocks, 6 in. sawn both sides, 3 in. do.) and prices.

SLATES.

Table with columns for slate sizes (10 x 10 best blue Bangor, best seconds, 16 x 8 best, 20 x 10 best blue Portmadoc, 16 x 8 best blue Portmadoc, 20 x 10 best Eureka unfading green, 16 x 8, 20 x 10 permanent green, 16 x 8) and prices.

[See also page 531.]

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Prémiums.	Designs to be delivered
*New Labourers' Dwellings	Liverpool Corporation	250 <i>l.</i> , 150 <i>l.</i> , 100 <i>l.</i>	Sept. 15
*Municipal Buildings, Fire Station, Public Baths, &c.	Tottenham U.D.C.	200 <i>l.</i> , 100 <i>l.</i> , and 50 <i>l.</i>	Sept. 20
*Memorial to Queen Victoria at Allahabad	The Committee	2,000 Rupees	Nov. 1

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Twenty-seven Cottages	Carlou U.D.C.	J. Byrne, Civil Engineer, Town Hall, Carlou	May 26
*Lavatory Accommodation at Workhouse, Lz. Clapton	City of London Union	J. Johnson, Architect, 47, Mark-lane, E.C.	do.
*Border Seatings, &c.	Beckenham U.D.C.	The Council's Surveyor, Beckenham	do.
Hospital, Rhinwelen, Fawr	Llantrisant R.D.C.	G. S. Morgan, Surveyor, School-street, Pontyclun	May 27
Six Houses, Gray-street	Bootle (Lancs) Corporation	Borough Engineer, Town Hall, Bootle	do.
Police Station and Court House, Dukinfield		H. Bewick, Architect, Newgate-street, Chester	do.
Workhouse, Oldmill, Aberdeen		Brown & Watt, Architects, 17, Union-terrace, Aberdeen	do.
Additions, &c., to Hydro, Darley Dale, Matlock		B. Stocks, Architect, St. Peter's-street, Huddersfield	do.
Schools, Cwystwyth, Wales		J. A. Jones, Architect, 7, Queen's-terrace, Aberystwith	do.
Police Station, Dukinfield		H. Bewick, Architect, Newgate-street, Chester	do.
Bakery, Ton Pentre, Rhondda Valley		W. D. Morgan, Architect, Pentre, Glam	do.
Sewerage Works	Plymouth Corporation	J. Mansergh & Son, Engineers, 5, Victoria-street, Westminster	do.
Sewerage Works, near Huddersfield	New Mill U.D.C.	Marrlott & Co., Engineers, Dewsbury	do.
Drainage Works, &c.	Rristol Corporation	T. H. Yabbicrom, Civil Engineer, 63, Queen-square, Bristol	do.
Schools, Hyde Park-road	Plymouth School Board	H. J. Snell, Architect, 11, The Crescent, Plymouth	do.
Three Houses, Ruston Hill, Pellon, Halifax		A. G. Daleill, Architect, 15, Commercial-street, Halifax	May 28
Sewers, &c.	Andershaw (Lancs)	J. P. Wilkinson, Civil Engineer, 47, Arcade-chmber, Manchester	do.
Additions to Hospital, Thorpe, Co. Durham	Raington R.D.C.	Farthing & Dunn, Architects, Newcastle-on-Tyne	do.
Reconstruction of Houghal Burn Bridge	Tanfield (Durham) U.D.C.	R. Heslop, Surveyor, Burnopfield	do.
Police station, Foleshill	Coventry Corporation	J. E. Swindlehurst, Engineer, St. Mary's Hall, Coventry	do.
Bridge Works, Penkridge-road	Cannock (Staffs) R.D.C.	H. M. Whitehead, Surveyor, Penkridge, Staffs	do.
Station, Bridge, &c., Ardsell, near Lytham	L. & Y. & L. & S. W. R. Co.	R. C. Irwin, Hunt's Bank, Manchester	do.
Road Works, Hartwell-street	Litherland (Lancs) U.D.C.	A. H. Carter, Surveyor, 25, Sefton-road, Litherland	do.
House, Fisher Farm Reservoir	Kendal Corporation	J. Stalker, Architect, Kendal	do.
Wall Works, &c.	Lancaster Corporation	Borough Surveyor, Town Hall, Lancaster	do.
Dutch Barn	Burnley Guardians	S. Keighley, Architect, 27, Nicholas-street, Burnley	do.
Isolation Hospital, Ryton-on-Tyne	Ryton U.D.C.	J. P. Daltou, Surveyor, Ryton-on-Tyne	do.
Offices at Steelworks, Llanelly	Messrs. D. Brown & Sons	T. Arnold, Civil Engineer, Castle Buildings, Llanelly	May 29
Factory, Offices, &c., Lockwood, Huddersfield	Mr. W. Duff	J. Berry, Architect, 3, Market Place, Huddersfield	do.
Residence, Victoria Esplanade, Morecambe		Cressy & Keighley, Architects, Bank Chambers, Morecambe	do.
Business Premises, Carter-street, Goole		F. Chambers, Architect, Clifton-gardens, Goole	do.
College Buildings, Arnsale, near Kendal		J. Stalker, Architect, Kendal	do.
Workshops, Highroad Well, Halifax		L. Coates, Architect, Warehouse-street, Halifax	do.
Additions to Farm Buildings, Warehouse, Aberdeen		J. Craigen, 193, Union-street, Aberdeen	do.
Sewerage Works, Stonnall	Lichfield R.D.C.	W. E. Rogers, Surveyor, Rugeley	do.
Culvert, &c., Kirk, Langley	Belper R.D.C.	R. C. Coroon, Engineer, Hazelwood, Derby	do.
Fifty-three Cottages, Merthyr	Saxon Building Club	P. V. Jones, Architect, Heogood	do.
Sunery Work, Settling Tank at Infirmary	Southwark Union	G. D. Stevenson, Architect, 13 and 14, King-street, E.C.	do.
Fifteen Villas, Gellifacog, near Merthyr, Wales		W. Dowdeswell, Architect, Treharris	May 31
Library, &c., Trecynon, Aberdare	Trustees	D. H. Eiford, Architect, 30, Weatheral-street, Aberdare	do.
Sewerage Works	Sudbury (Suffolk) Corporation	T. Hayward, Civil Engineer, Town Hall, Sudbury	do.
Electricity sub-station, Cheetham	Manchester Corporation	City Surveyor, Town Hall, Manchester	do.
House, Ultras, Belfast	Mr. F. A. Heron	Young & Mackenzie, Architects, Belfast	do.
School, Belmont, Durham		H. T. Gradon, Architect, 22, Market-street, Durham	do.
Farmhouse, near Pickering		J. Shepherd, Rosedale Abbey, Pickering	do.
Lodge, Entrance Gates, &c., Govilon, Abergavenny	Dr. W. E. Williams	C. T. Evans, 8, Queen-street, Cardiff	May 31
Cottage Homes, Ely	Cardiff Guardians	E. Seward, Architect, Queen's Chambers, Cardiff	do.
Mission Hall, Newton-on-irthington, Cumberland	Rev. T. G. Horwood	J. Mark, Architect, Brampton, Cumberland	do.
Wesleyan School, South Downs, Redruth		H. W. Collins, Architect, Waireddon, Redruth	do.
Additions, &c., Presbyterian Church, Llanelly		W. Wilkins, Athenaeum, Llanelly	do.
Bandstand, &c.	Hythe Corporation	A. S. Butterworth, Civil Engineer, Hythe	do.
Reservoir, &c.	Wingate (Durham) Water Co., Ld.	T. Bower, Engineer, Ribbles House, West Hartlepool	do.
Macadam (580 tons), Lanch	Little Woolton U.D.C.	R. Simmons, Surveyor, Grange-lane, Gateacre	do.
Foundations, &c., at University, Birmingham		Aston, Webb & Co., Architects, 19, Queen's Gate, S.W.	June 2
Refuse Destructor, Swansea		G. Bell, Borough Surveyor, Swansea	do.
School, The Causeway	Aberavon (Glam.) School Board	Thomas & James, Architects, Aberavon	do.
Warehouse, Farnworth	Industrial Co-operative Society	J. H. Taylor, Architect, 15, Grove-street, Farnworth	do.
Boiler House, &c., Cape Mills, Farsley, Yorks		W. D. Gill, Architect, stanningley, Leeds	do.
Extension of Hospital, Darlington		Hoskins & Henman, Architects, Court Chambers, Darlington	do.
*Alterations, Underground Convenience, London Wall	Engineer's Office	Engineer's Office, Guildhall	June 3
*Repair of Tar and Asphalt Paving	Tottenham U.D.C.	Council's Engineer, 712, High-road, Tottenham	do.
*Road Making and Paving Works	Leyton U.D.C.	Council's Surveyor, Town Hall, Leyton, E.	do.
Water Supply Works, Piesley, Manchester	Bisckwell R.D.C.	G. & F. W. Hodson, Engineer, Loughborough	do.
Road Materials, &c.	Andover R.D.C.	J. Wormald, Surveyor, Andover	June 4
Concrete Landing Slip, Culkeia, Assynt	Sutherland County Council	D. & C. Stevenson, Engineer, 54, George-street, Edinburgh	June 9
*Supplying and Fixing Slipper Baths	Lambeth Borough Council	Borough Engineer, Town Hall, Kennington Green	do.
School, Pentre, Wales	Ystradyfodwg School Board	J. Rees, Architect, Pentre	June 9
Water supply Works, Kingsbury, Somerset	Langport R.D.C.	Bailey, Denton & Co., Civil Engineers, Palace Chambers, S.W.	do.
Matronette Dwelling House, Farnes	West Ham School Board	F. & W. Stocker, Architects, 90 and 91, Queen-street, E.C.	do.
*Cleaning, Painting, and Repairs of 18 Schools	Langport R.D.C.	Borough Engineer, Town Hall, West Ham, E.	do.
*Thirteen Miles Iron Rails, &c.	County Borough West Ham	The Clerk's Office, Langport, Somerset	June 10
*Paving sides of Roads	Great Western Railway Co.	W. Jacques, Architect, 2, Fen-court, E.C.	do.
Warehouse, Moyreth Dock, Birkenhead	Bridgwater (Som.) Town Council	G. K. Mills, Paddington Station	do.
Sewers	West Ham Council	W. T. Baker, King-square, Bridgwater	do.
*Erection of Mortuary, Canning Town	do.	Council's Engineer, Town Hall, West Ham, E.	do.
*Making-up Streets	Lambeth Guardians	Clerk's Office, Brook-street, Kennington-road, S.E.	June 11
*Painting Works at Infirmary, Broom-street	Newport (Mon.) Corporation	Borough Engineer, Town Hall, Newport	June 10
Bridge over River Usk	Rugby Co-operative Society	J. T. Franklin, Architect, Regent-street, Rugby	June 17
*New Buildings, &c.	Edmonton School Board	Board's Architect, 99, Church-street, Lower Edmonton	do.
*New Schools at Montague and Homdsfield-roads	Wallasey R.D.C.	J. H. Crowther, Engineer, Great Float, Birkenhead	June 19
Reservoir, &c., Gorsehill, New Brighton	Hammersmith Guardians	Giles, Gough & Troispe, Architects, 28, Craven-st., Strand, W.C.	June 23
*New Workhouse and Infirmary	Trustees Lambeth Hayles Charity	Waring & Nicholson, 35, Parliament-street, S.W.	No date
Tenement Houses, Southwark		Woodhouse & Willoughby, Architects, 109, King-st., Manchester	do.
Sixteen Cottages, Whaley Bridge		Brodrick & Co., Architects, Bridlington	do.
Village, Hurstwick East, Yorkshire		Hickton & Farmer, Architects, Walsall	do.
Schools, Boxwich, near Walsall		Wheeler & Lodge, Architects, Bank Chambers, Horsham	do.
Additions to Loxwood Home, Rudwick		Judson & Hudson, Architects, Oakworth, near Keighley	do.
Additions to Farm House, Oakworth, Yorks		Clarke & Charles, Harrow-on-the-Hill	do.
Two Houses, Pinner		Stirling & Cameron, 102, Bath-street, Glasgow	do.
Municipal Buildings, Barrhead (N.B.)		J. W. Little, Architect, 149, High-street, Tonbridge	do.
Factory, Heanor	Messrs. J. Fletcher & Sons	A. Marshall, Architect, King-street, Nottingham	do.
Factory, Heanor	War Department	Royal Engineer's Office, Fishergate, York	do.
*Painting Works, Derby, Leeds and Sheffield	Cardle South End Co-op. Soc. Ld.	T. Taylor Scott, Architect, 43, Lowther-street, Carlisle	do.
*Heating New Buildings			do.

[See also next page.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Superintendent of Roads	Fulham Borough Council	150 <i>l.</i> , &c.	June 2
*Building Inspector	Tottenham U.D.C.	175 <i>l.</i>	June 3
*Quantity Surveyor's Assistant	London County Council	3 <i>l.</i> 13 <i>s.</i> 6 <i>d.</i> per Week	June 9
*Clerk of the Works	St. Pancras Guardians	4 <i>l.</i> 4 <i>s.</i> per week	No date

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. iv. Contracts, pp. iv. vi. viii. & x. Public Appointments xx. & xxi.

PRICES CURRENT (Continued).

TILES.

	s. d.	6 per 1,000, at rly. depot.	7 per doz.	6 per 1,000	4 per doz.	57 6 per 1,000	60	4 per doz.	3	50 9 per 1,000	4 1 per doz.	3 8
Best plain red roofing tiles	41	6	7	6	4	57	60	4	3	50	4	3
Hip and valley tiles	3	7	4	4	4							
Best Broseley tiles	48	6										
Hip and valley tiles	4	0										
Best Ruabon Red, brown or brindled Do. (Edwards)	57	6										
Do. ornamental Do.	60	0										
Hip tiles	4	0										
Valley tiles	3	0										
Best Red or Mottled Staf- fordshire Do. (Peakes)	50	9										
Hip tiles	4	1										
Valley tiles	3	8										

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard.	At per load of 50 ft.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 10 0	15 0 0
Deals: best 3 by 9	13 10 0	15 0 0
Battens: best 2 1/2 in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	10 10 0	11 10 0
Battens: best 2 1/2 by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	" "
3 in. by 4 in. and 2 in. by 6 in.	8 10 0	9 10 0
3 in. by 4 1/2 in. and 2 in. by 5 in.	8 0 0	9 0 0
Foreign Sawm Boards— 1 in. by 1 1/2 in. by 1 1/2 in.	0 10 0	more than battens.
3 in.	1 0 0	
Fir timber: Best middling Danzig or Memel (average specifica- tion)	4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks	8 15 0	3 0 0
Pitch-pine timber (30 ft.)	3 0 0	3 10 0
JOINERS' WOOD. At per standard.		
White Sea: First yellow deals, 3 in. by 11 in.	22 0 0	23 0 0
3 in. by 9 in.	20 0 0	21 0 0
Battens, 2 1/2 in. and 3 in. by 7 in. by 11 in.	16 10 0	18 0 0
Second yellow deals, 3 in. by 11 in. 3 in. by 9 in.	16 10 0	18 10 0
Battens, 2 1/2 in. and 3 in. by 7 in. by 11 in.	13 0 0	14 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	15 10 0
Battens, 2 1/2 in. and 3 in. by 7 in. by 11 in.	11 10 0	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	20 0 0	21 0 0
Do. 3 in. by 9 in.	17 0 0	18 0 0
Battens	13 0 0	14 0 0
Second yellow deals, 3 in. by 11 in.	15 0 0	16 10 0
Do. 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Third yellow deals, 3 in. by 11 in.	12 10 0	13 10 0
Do. 3 in. by 9 in.	12 0 0	13 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg:— First white deals, 3 in. by 11 in. Battens " " 3 in. by 9 in.	14 0 0	15 0 0
11 0 0	12 0 0	
Second white deals 3 in. by 11 in. " " 3 in. by 9 in.	13 0 0	14 0 0
12 0 0	13 0 0	
" " 3 in. by 9 in.	12 0 0	13 0 0
10 0 0	11 0 0	
Pitch-pine: deals Under 2 in. thick extra	16 0 0	18 0 0
0 10 0	1 0 0	
Yellow Pine—First, regular sizes	32 0 0	33 10 0
Broads (11 in. and up)	8 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube	0 3 6	0 4 6
Danzig and Stettin Oak Logs— Large, per ft. cube	0 2 6	0 3 0
Small	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 7 1/2	0 0 8
3 in. do. do.	0 0 7	" "
Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 0 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 0 10
Teak, per load	16 0 0	20 0 0
American Whitewood Planks— Per ft. cube	0 3 0	0 3 6
Prepared Flooring— 1 in. by 7 in. yellow, planed and shot	0 13 0	0 16 6
1 in. by 7 in. yellow, planed and matched	0 13 6	0 17 6
1 1/2 in. by 7 in. yellow, planed and matched	0 15 0	1 0 0
6 in. at 6 <i>d.</i> per square less than 7 in. 1 in. by 7 in. white, planed and shot	0 11	0 13 6

PRICES CURRENT (Continued).

WOOD.

Prepared Flooring—	Per square
	£ s. d.
1 in. by 7 in. white, planed and matched	0 11 6
1 1/2 in. by 7 in. white, planed and matched	0 13 6
6 in. at 6 <i>d.</i> per square less than 7 in.	0 15 6

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton.
	£ s. d.
Rolled Steel Joists, ordinary sections	6 2 6
Compound Girders	7 17 6
Angles, Tees and Channels, ordi- nary sections	7 17 6
Flitch Plates	8 5 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 0 0

METALS.

	Per ton, in London
	£ s. d.
IRON—	
Common Bars	7 15 0
Staffordshire Crown Bars, good merchant quality	8 5 0
Staffordshire "Marked Bars"	10 10 0
Mild Steel Bars	9 0 0
Hoop Iron, basis price	9 5 0
" galvanised	16 0 0
(* And upwards, according to size and gauge.)	
Sheet Iron, Black— Ordinary sizes to 20 g.	10 0 0
" " 20 to 24 g.	1 0 0
" " 24 to 26 g.	12 10 0
Sheet Iron, Galvanised, flat, ordi- nary quality.— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0
" " 22 g. and 24 g.	13 5 0
" " 26 g.	14 5 0
Sheet Iron, Galvanised, flat, best quality:— Ordinary sizes to 20 g.	16 0 0
" " 22 g. and 24 g.	16 10 0
" " 26 g.	18 0 0
Galvanised Corrugated Sheets.— Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 15 0
" " 22 g. and 24 g.	13 5 0
" " 26 g.	14 5 0
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12 0 0
" " 22 g. and 24 g.	13 0 0
" " 26 g.	14 5 0
Cut nails, 3 in. to 6 in.	9 5 0
(Under 3 in. usual trade extras.)	

LEAD, &c.

	Per ton, in London.
	£ s. d.
LEAD— Sheet, English, 3 lbs. & up. Pipe in coils	14 7 6
Sole Pipe	14 17 6
17 7 6	
ZINC— Sheet— Vieille Montagne	24 10 0
Silesian	24 0 0
COPPER— Strong Sheet	0 1 0
Thin	0 1 1 1/2
Copper nails	0 1 1 1/2
BRASS— Strong Sheet	0 0 11
Thin	0 1 1
TIN— English Ingots	0 1 3 1/2
SOLDER— Plumbers'	0 0 6 1/2
Timen's	0 0 8 1/2
Blowpipe	0 0 10

ENGLISH SHEET GLASS IN CRATES.

	2 1/2 <i>d.</i> per ft. delivered.
15 oz. thirds	2 1/2 <i>d.</i>
fourths	2 1/2 <i>d.</i>
21 oz. thirds	3 <i>d.</i>
fourths	3 <i>d.</i>
26 oz. thirds	4 <i>d.</i>
fourths	4 <i>d.</i>
32 oz. thirds	5 <i>d.</i>
fourths	5 <i>d.</i>
Fluted sheet, 15 oz.	4 <i>d.</i>
3 <i>d.</i>	3 <i>d.</i>
1/2 Hartley's Rolled Plate	2 1/2 <i>d.</i>
3/4 " " "	2 1/2 <i>d.</i>
1 " " "	2 1/2 <i>d.</i>

OILS, &c.

	per gallon
	£ s. d.
Raw Linseed Oil in pipes	0 2 8
" " in barrels	0 2 9
Bolled " " in drums	0 2 11
" " in pipes	0 2 10
" " in barrels	0 2 11
" " in drums	0 3 1
Turpentine, in barrels	0 2 8
" " in drums	0 2 10
Genuine Ground English White Lead	21 0 0
Red Lead, Dry	20 10 0
Best Linseed Oil Putty	per cwt. 0 8 6
Stockholm Tar	per barrel 1 12 0

PRICES CURRENT (Continued).

VARNISHES, &c.

	Per gallon.
	£ s. d.
Fine Elastic Copal Varnish for outside work ..	0 15 6
Best Elastic Copal Varnish for outside work ..	1 0 0
Best Elastic Carriage Varnish for outside work ..	0 15 0
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 2 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knottling	0 10 0
Best French and Brush Polish	0 10 0

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[Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 10 a.m. on Thursdays. N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announce-
ments of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under-
roofed, unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

ABERBEEG (Wales).—For the erection of twenty-two cottages, for the Building Club. Mr. G. C. Hillard, architect, Market-chambers, Abertillery:—
John Newcombe .. £5,830 | Gould & Mills. £4,070
Williams & Rogers .. 5,730 | David Lewis, Aber-
David Lewis .. 5,025 | beeg* .. 4,180

ABERTILLERY.—For the erection of twenty-two double cottages, Abertillery, Mon., for Tylery Building Club. Mr. Geo. C. Hillard, architect and surveyor, Market-chambers, Abertillery:—
David Lewis .. £5,280 | D. Powell .. £4,936
R. Tudor .. 5,038 | Noel Bagley .. 4,796
Jno. Jones .. 5,005

BARNSELY.—For the erection of four houses, Smithies-
ane. Messrs. Wade & Turner, architects, 10, Pitt-
street, Barnsley. Quantities by the architects:—
Building.—R. Ruffles .. £625 0
Joinery.—W. Dyson .. 200 0
Plumbing.—B. Denison .. 27 10
Slatting.—M. Fleming .. 64 5
Plastering.—M. Fleming .. 57 5
Painting.—B. Dwight .. 16 16
[All of Barnsley.]

BRISTOL.—For the erection of a retaining wall and other incidental work, for Mr. Heber Mardon. Mr. T. J. Moss-Flower, C.E., Baldwin-street, Bristol, and 28, Victoria-street, Westminster, S.W.:—
E. Preece .. £344 14 6 | Walters & Son .. £250 0 0
Thatcher Bros. .. 850 0 0 | J. Perkins, Bris-
Cowlin & Son .. 251 0 0 | tol* .. 240 0 0

BRISTOL.—For the conversion of two dwelling houses into shops, &c. Mr. T. J. Moss-Flower, architect, Bald-
win-street, Bristol:—
E. Preece, Bristol* .. £331
[See also next page.]

CARDIFF.—For the erection of chapel at Cardiff, for the Presbyterian Church of Wales. Mr. Edgar G. C. Down, architect, 31, High-street, Cardiff:—
 Thomas & Co. £6,970 0 0 C. C. Dunn .. £6,300 0 0
 G. Griffiths .. 6,778 3 0 Thomas & Sons 6,140 0 0
 D. W. Davies 6,632 0 0 Turner & Sons 6,141 0 0
 Shepton & Sons 6,455 10 0 Price Bros. .. 6,051 6 4
 F. Williams .. 6,332 0 0 Evans & Bros. 5,790 9 8
 Latsey & Co. 6,240 0 0 W. T. Morgan* 5,680 0 0

CHESTERFIELD.—For the erection of new stores, &c., West Bars, for the Chesterfield and District Co-operative Society. Messrs. G. Haslam & Son, architects, Euclid House, Ilkeston:—
 Jno. Wright .. £2,645 A. R. Clarke, Blue
 J. H. Vickers, Ltd. 2,620 Bell Hill, Notting-
 G. A. Piliatt .. 2,570 ham* .. £2,500
 Fredk. Lee .. 2,550 Davison & Son .. 2,359

HANLEY.—For additions to Dalehall Manufactory, for Messrs. Keeling & Co. Messrs. K. Scrivener & Sons, architects, Hanley:—
 Meikl-john & Son .. £720 Grant & Son .. £768
 J. & S. Wilton .. 816 W. Cooke .. 740
 G. A. Foster .. 784 J. J. Longden, Burslem* 748
 F. Godwin .. 770 Bennett Bros. .. 739

HIGHAM FERRERS.—For the erection of two semi-detached houses. Mr. Geo. Hall, architect, Highham Ferrers:—
 T. Wilmott, jun. .. £609 10 Peter Ireson, High-
 E. Mitchell .. 625 0 am Ferrers* .. £526 0
 T. & C. Berrill .. 567 0

NORTHAMPTON.—For additions to the Northampton General Infirmary. Mr. F. W. Dorman, architect, Northampton:—
 A. J. Chown .. £14,550 C. W. Souster .. £37,000
 Pullen & Sons .. 34,459 R. Cosford .. 30,989
 G. Henson .. 33,475 J. T. Wingrove .. 30,702
 J. Rowbotham .. 32,777 H. Green .. 30,467
 Johnson & Son .. 32,700 A. P. Hawtin .. 30,150
 H. Branson .. 32,000 Brown & Sons .. 30,100
 Higgins .. 31,300 E. Archer .. 29,278
 Sharman & Son .. 31,280 H. Martin* .. 28,640

SHERWOOD (Notts).—For alterations and additions to the Robin Hood Inn. Mr. Fred C. Martin, architect, Angel-row, Nottingham:—
 Cooper & Son .. £710 F. Messon .. £687
 Fish & Son .. 718 J. H. Vickers, Ltd.,
 Wm. Maule .. 723 Nottingham* .. 683
 A. B. Clarke .. 700

LONDON SCHOOL BOARD TENDERS.
 At the last meeting of the London School Board, the Works Committee submitted the following lists of tenders. Mr. T. J. Bailey is the Board's Architect:—
 * Recommended for acceptance.

The exteriors of the following schools will be painted between May 24, 1902, and June 21, 1902:—
EGLINTON-ROAD:—
 Hayter & Son .. £224 0 H. Groves .. £189 0
 J. Harries .. 216 0 E. Proctor* .. 159 10
 W. Jolly .. 190 10

HAWLEY-CRESCENT:—
 M. Pearson .. £255 Marchant & Hirst .. £228
 W. Chappell .. 230 T. Cruwys* .. 220

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 T. H. Jackson .. £521 10 Dolman & Co. £353 0
 Gibb & Co. 519 0 A. E. Symes .. 340 0
 J. F. Holliday .. 436 0 Vigor & Co. 333 0
 Corfield & Co. 413 0 A. J. Sheffield* .. 324 0
 G. Wales .. 389 0

NYNEHEAD-STREET:—
 S. Musgrove .. £194 1 H. Groves .. £130 0
 Hayter & Son .. 193 0 W. J. H-wie .. 135 10
 W. Banks .. 169 10 G. Kemp* .. 130 0
 J. & C. Bowyer .. 169 0

ROMAN-ROAD:—
 Gibb & Co. £481 0 Dolman & Co. £402 0
 G. Wales .. 428 0 Vigor & Co. 340 0
 Corfield & Co. 408 0 Haydon & Sons .. 292 10
 T. H. Jackson .. 403 5 A. J. Sheffield* .. 290 0

ROTHERHITHE NEW-ROAD:—
 H. Line .. £279 0 W. Banks .. £237 0
 Greenwood .. 261 12 Johnson & Co. 175 10
 T. D. Leng .. 259 0 Sayer & Son* .. 174 0
 J. Harries .. 241 0

ST. DUNSTAN'S-ROAD:—
 C. Gurling .. £226 10 W. Chappell .. £198 10
 F. Chidley .. 226 0 Chinchin & Co. 179 0
 W. R. & A. Hide .. 214 0 W. Hammond* .. 140 0

SIDNEY-ROAD:—
 T. Willson .. £259 0 Chessum & Sons .. £184 0
 Collis Willmott & M. Pearson .. 160 0
 Son .. 235 0 Barrett & Power .. 177 0
 Silk & Son .. 217 10 G. Barker* .. 168 0
 W. Martin .. 199 0

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 J. Harries .. £430 G. Kemp .. £256
 J. & C. Bowyer .. 316 Maxwell Bros., Ltd.* 246
 Levey & Son .. 279

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